Supreme Court, U.S.
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IN THE

Supreme Court of the United States

OCTOBER TERM, 1994

CADILLAC PRODUCTS, INC.,

Petitioner,

—v.—

TRIENDA CORP.,

Respondent.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

PETITION FOR A WRIT OF CERTIORARI

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QUESTION PRESENTED

Whether petitioner, an indemnitor of the Government and a third-party defendant in an action before the United States Court of Federal Claims, has Article III standing, independent from the Government, to appeal from a final decision of that court against the Government.

LIST OF PARTIES and RULE 29.1 LIST

The parties to the proceedings below were the petitioner, Cadillac Products, Inc. and the respondent TriEnda Corporation (formerly known as "Penda Corporation").

Petitioner Cadillac Products, Inc. has no parent companies, subsidiaries or affiliates.

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No. _____

IN THE

Supreme Court of the United States

OCTOBER TERM, 1994

CADILLAC PRODUCTS, INC.,

Petitioner,

v.

TRIENDA CORP.,

Respondent.

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

The petitioner Cadillac Products, Inc. respectfully prays that a writ of certiorari issue to review the judgment and opinion of the United States Court of Appeals for the Federal Circuit entered in the above-entitled proceeding on December 22, 1994.

OPINIONS BELOW

The opinion of the Court of Appeals for the Federal Circuit is reported at ___F.3d___, 33 USPQ2d 1200 (Fed. Cir. 1994), and is reprinted in the appendix hereto, p. 1a, *infra*.

The memorandum decision of the United States Court of Federal Claims (Bruggink, J.) is reported at 29 Fed. Cl. 533 (Fed. Cl. 1993) and is reprinted in the appendix hereto, p. 11a, *infra*.

JURISDICTION

On December 22, 1994, the Federal Circuit entered a judgment and an opinion dismissing petitioner's appeal for lack of jurisdiction under 28 U.S.C. § 1295(a)(3). No petition for rehearing was sought.

The jurisdiction of this Court to review the judgment of the Federal Circuit is invoked under 28 U.S.C. § 1254(1).

STATUTES INVOLVED

28 U.S.C. § 1295: Jurisdiction of the United States Court of Appeals for the Federal Circuit

(a) The United States Court of Appeals for the Federal Circuit shall have exclusive jurisdiction–

(3) of an appeal from a final decision of the United States Court of Federal Claims[.]

28 U.S.C. § 1498: Patent and Copyright Cases (p. 106a, *infra.*)

41 U.S.C. § 114: United States Court of Federal Claims (p. 107a, *infra.*)

STATEMENT OF THE CASE

Petitioner Cadillac Products, Inc. ("Cadillac") manufactures and supplies the United States Postal Service with thermoformed plastic pallets under contract. According to the terms of the contract, Cadillac is bound to indemnify the government against any liability arising thereunder. Respondent TriEnda Corp. owns a patent on a thermoformed plastic pallet. TriEnda brought suit in the Court of Federal Claims against the Government under 28 U.S.C. § 1498(a) for the Government's use of the pallets procured from Cadillac, which the former alleged was an unauthorized use of the invention claimed in the patent.

Early in the proceeding, Cadillac was notified of the pending action pursuant to Rule 14(a)(1) of the United States Court of Claims,[1/] p. 111a, *infra*. This rule provides that a person who is alleged to have an interest in the subject matter of a pending action may appear as a party and assert an interest, if any, therein. Once notified, Cadillac joined the action as a third-party defendant. Along with the Government, Cadillac fully participated in the litigation, defending against the claim of infringement and challenging the validity of the patent.

The trial court subsequently entered judgment against the Government and awarded $1,476,335.01 to TriEnda. Pursuant to 28 U.S.C. § 1295(a)(3), Cadillac and the Government took their respective appeals from this final decision to the Court of Appeals for the Federal Circuit ("Federal Circuit"). The Government later withdrew its appeal. Cadillac, however, filed its brief in which it raised various errors in the decision underlying the judgment of liability, including, *inter alia,* the trial court's denial of a motion to amend the pleadings that was based upon evidence elicited by TriEnda in its case in chief. The issues were fully briefed and argued. Based upon the premise that it was "without jurisdiction to relieve the Government of an adverse judgment from which the Government no longer appeals" (pp. 7-8a, *infra*), the Federal Circuit dismissed Cadillac's appeal, and held that, as a matter of law, Cadillac lacked the requisite standing to maintain an appeal from a final decision of the Court of Federal Claims independent of the Government. In other words, since the Government had abandoned its appeal, the Federal Circuit was automatically divested of jurisdiction over Cadillac's appeal.

Cadillac argued that it had standing based upon its substantial interests, including its status as a third-party defendant at trial; its financial interest in the outcome of the trial as the Government's indemnitor; and the preclusive effect of the judgment of the trial court

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[1/] The United States Court of Federal Claims was known as the United States Court of Claims between 1982 and 1992.

in any subsequent litigation. The Federal Circuit addressed these arguments individually, without considering them as a whole.

Despite Cadillac's joinder as a third-party defendant and full participation at trial, the Federal Circuit ruled: "[b]ecause of the limited subject matter jurisdiction of the Court of Federal Claims, no claim before that court was directed against Cadillac." According to the Federal Circuit, Cadillac was at most a "nominal defendant" before the trial court, and the lack of a judgment against Cadillac was fatal to Cadillac's standing to prosecute its appeal.[2/] (pp. 5-6a, *infra*). Therefore, according to the Federal Circuit, Cadillac did not have standing to appeal based solely on its status as a third-party defendant at trial. (p. 6a, *infra*).

The Federal Circuit further held that Cadillac was not aggrieved by the judgment of the trial court because the judgment was rendered solely against a co-party (the Government) and that Cadillac's pecuniary interest as indemnitor was indirect and consequential, rather than direct and immediate. (pp. 6-8a, *infra*).

The Federal Circuit also held that the judgment of the trial court had no preclusive effect against Cadillac. (pp. 8-10a, *infra.*). In so holding, the Federal Circuit relied only on the Restatement (Second) Judgments Sections 28(1), 37 cmt. f., and 38 (1980). The court did not address long standing precedent of the Claims Court to the contrary, or section 57 of the Restatement, describing the preclusive effect on an indemnitor of a judgment against its indemnitee where the indemnitor was joined as a party in the action.

[2/] The Federal Circuit stated that the "only judgment before us is one against the Government that the Government is content to satisfy." (p. 5a, *infra*). However, at oral argument, counsel for respondent conceded that the Government was awaiting the outcome of Cadillac's appeal prior to satisfying the judgment.

REASONS FOR GRANTING THE WRIT

I.

The Decision Of The Federal Circuit Precluding Third-party Defendants In The Court Of Federal Claims From Appealing Errors In A Decision Giving Rise To A Judgment Of Liability Independently Of The Government Conflicts With The Statutory Framework Established By Congress, And Conflicts With Decisions Of This Court As Well As Those Of The Court Of Federal Claims.

Without congressional authorization, the Federal Circuit has manufactured a new limitation in its jurisdictional grant over appeals from final decisions of the Court of Federal Claims. By requiring the Government to participate in an appeal brought by a third-party defendant that asserts errors in the decision giving rise to a judgment of liability, the court contravenes the plain language of 28 U.S.C. § 1295(a)(3). Such a drastic rewording of the statute deserves this Court's attention.

The plain language of section 1295(a)(3) provides only one prerequisite for the jurisdiction of the Federal Circuit: the decision of the Court of Federal Claims must be final. There is no requirement that the Government be a party to any appeal. The imposition of this requirement ignores the explicit wording of the statute as well as this Court's repeated warnings against the narrow construction of jurisdictional statutes. *Lindahl v. Office of Personnel Management*, 470 U.S. 768, 796-99 (1985); *Florida Power & Light Co. v. Lorion*, 470 U.S. 729, 745 (1985); *Crown Simpson Pulp Co. v. Costle*, 445 U.S. 193, 196 (1980) (*per curiam*). Since it is beyond dispute that the decision of the Court of Federal Claims was final, jurisdiction was proper.[3/]

[3/] Even if this limitation is properly read into the statute, the Federal Circuit nonetheless ignored that Cadillac's appeal was pending when the Government withdrew its appeal. That court's continued jurisdiction to hear the pending appeal was supported by

(continued...)

In 28 U.S.C. § 1498(a), p. 106a, *infra*, Congress provided the exclusive remedy for a patent owner against a government contractor for supplying the Government with a product or service alleged to infringe its patent – a suit against the Government in the Court of Federal Claims. *Richmond Screw Anchor Co. v. United States*, 275 U.S. 331, 343-45 (1928).[4/] Because of the limited jurisdiction of the Court of Federal Claims, the only named defendant in an action before it is the United States. 28 U.S.C. § 1498(a); RCFC 10(a) (p. 109a, *infra*).

Government contractors are allowed nonetheless to join in proceedings before the Court of Federal Claims pursuant to 41 U.S.C. § 114(b), p. 107a, *infra*, which provides specifically for persons to appear as parties and to assert and defend their interests in the subject matter of the suit. The purpose of this third party practice is to prevent numerous proceedings and possible inconsistent determinations on identical facts. *Rockwell Int'l Corp. v. United States*, 31 Fed. Cl. 536, 539 (Fed. Cl. 1994). The Federal Circuit's decision disregards this purpose. In failing to give preclusive effect to a final decision of indemnitee liability, that court forces duplication

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[3/](...continued)
Matter of Dist. of Columbia's Workmen's Comp. Act, 554 F.2d 1075 (D.C. Cir.), *cert. denied*, 429 U.S. 820 (1976) (despite legislation removing the district court's jurisdiction over certain claims, the appellate court held it would entertain an appeal regarding such claims because the appeal was pending when jurisdiction was removed).

[4/] *Accord Alma Motor Co. v. Timken-Detroit Axle Co.*, 329 U.S. 129, 137-39 (1946); *Auerbach v. Sverdrup Corp.*, 829 F.2d 175, 181 (D.C. Cir. 1987), *cert. denied*, 485 U.S. 905 (1988); *Croydon Co. v. Unique Furnishings, Ltd.*, 831 F. Supp. 480, 482-83 (E.D.N.C. 1993).

of litigation with the possibility of inconsistent results, leaving the Government with ultimate liability.[5/]

Given the exclusive nature of the remedy provided to patent owners for the Government's infringement under 28 U.S.C. § 1498(a), and the ability of interested persons to participate as parties pursuant to 41 U.S.C. § 114(b), it would be inconsistent with this statutory framework for a person who joins in an action as a third-party defendant not to be bound by findings of fact and conclusions of law determined therein.

Prior to the decision below, it was not disputed that an indemnitor who joined in a Claims Court action would be bound by the judgment of liability in any subsequent proceeding. *See, e.g., Del-Rio Drilling Programs, Inc. v. United States,* 17 Cl. Ct. 844, 849-50 (Cl. Ct. 1989); *Uram v. United States,* 216 Ct. Cl. 418, 420 (Ct. Cl. 1978); *Petrovitch v. United States,* 421 F.2d 1364, 1370 (Ct. Cl. 1970); *Richfield Oil Corp. v. United States,* 151 F. Supp. 333, 335-36 (Ct. Cl. 1957).[6/] Cadillac joined the proceeding below, and

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[5/] Left standing, the decision of the Federal Circuit would require the Government in a subsequent action for indemnification against Cadillac to introduce evidence that the Government infringed the patent and that the patent is valid. It may also force the patent owner, already successful in the Court of Federal Claims, to join in the indemnification proceeding, and relitigate the issues of validity and infringement.

[6/] There is longstanding authority that an indemnitor, noticed under RCFC 14(a)(1), who does not join as a party at trial may nonetheless be bound by findings of fact and conclusions of law determined in the proceeding by operation of RCFC 14(c)(1), pp. 109-110a, *infra*. *See, e.g., Rockwell Int'l Corp. v. United States,* 31 Fed. Cl. at 539-40; *Myrtle Beach Pipeline Co. v. United States,* 6 Cl. Ct. 363, 365-66 (Cl. Ct. 1984); *Carrier Corp. v. United States,* 534 F.2d 250, 251-52 (Ct. Cl. 1976); *Bowser, Inc. v. United States,* 420 F.2d 1057, 1060-61 (Ct. Cl. 1970). While (continued...)

not only assisted the Government in its defense, but also interrogated witnesses on its own behalf.

The Federal Circuit held that Cadillac's interest as the Government's indemnitor was "indirect and consequential, rather than direct and immediate." (p. 8a, *infra*). Thus, Cadillac was allegedly not aggrieved by the judgment, and therefore lacked the requisite Article III standing. *Id.*[7] Crucial to the Federal Circuit's decision is the belief that Cadillac was "at most a nominal defendant" in the Court of Federal Claims. (pp. 6a, 9a, *infra*). However, the Government, the only named defendant in the proceedings in that court is the more likely nominal defendant in an action brought under 28 U.S.C. § 1498(a),[8] as that section provides the exclusive remedy of a patent owner for third-party sales of an infringing product to the

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[6](...continued)
such authority has been called into question by *Oak Forest Inc. v. United States*, 26 Cl. Ct. 1397 (Cl. Ct. 1992), the rationale set forth therein was not applied in a case brought under 28 U.S.C. § 1498(a), *Rockwell Int'l, supra* p. 6. In any event, Cadillac did appear as a party in the trial court. Therefore, it should be bound by the court's decisions. *See Oak Forest Inc.*, 26 Cl. Ct. at 1404 (if noticed persons appeared and were made parties to the proceeding they would be bound for purposes of a subsequent government-initiated indemnification action).

[7] The Federal Circuit apparently ignored cases such as *Bowser, Inc. v. United States*, 421 F.2d 1057, 1060 (Ct. Cl. 1970) which held that an indemnitor's "direct pecuniary interest in the outcome" of the Court of Claims action was precisely the reason why such person should be made a party to that proceeding.

[8] *See Westerchil Const. Co. v. United States*, 16 Cl. Ct. 727, 732-33 (Cl. Ct. 1989) (although the Government was statutorily required to be a named plaintiff in an earlier proceeding involving a subcontractor seeking recovery of costs for rebuilding a roof, the Government was merely a nominal party to that proceeding; the subcontractor was the true party in interest).

Government.[9] The supplier's interest is thus significant. 41 U.S.C. § 114(b) (explicitly providing for persons to appear as parties and to assert and defend their interests in the subject matter of the suit).

The Restatement (Second) of Judgments § 57 fully supports the result that an indemnitor, such as Cadillac, who joins in an action should be bound by a decision of liability determined in that action. That section provides that a judgment of liability estops the indemnitor from disputing the existence and extent of the indemnitee's liability. It also precludes the indemnitor from relitigating issues determined in the action against the indemnitee if the indemnitee defended the action with "due diligence and reasonable prudence." *See also* Restatement (Second) of Judgments § 57 cmt. a, illus. 1 (1980)[10]

The Federal Circuit ignored this section. Instead, it relied on sections 37 cmt. f. (nominal defendants) and 38 (non-adversarial parties). Moreover, it cited section 28(1), which permits relitigation of issues in a subsequent action if the party against whom preclusion is sought could not, as a matter of law, have obtained review of the prior judgment. Accordingly, the court then held that there would be no issue preclusion in a subsequent action against Cadillac "because our holding today precludes Cadillac, as a matter of law, from obtaining review of the Court of Federal Claims judgment." (p. 9a, *infra*). In so doing, the court has put the cart before the horse.

Finally, the Federal Circuit held that it was "without jurisdiction to relieve the Government of an adverse judgment from which [it] no longer appeals." (pp. 7-8a, *infra*). This is simply incorrect. In *Kicklighter v. Nails by Janee, Inc.*, 616 F.2d 734, 738 (5th Cir.

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[9] *See* p. 5, *supra*.

[10] The circuit courts of appeals have applied Section 57: *Universal American Barge Corp. v. J-Chem, Inc.*, 946 F.2d 1131 (5th Cir. 1991); *SCAC Transport (USA) Inc. v. S.S. Danaos*, 845 F.2d 1157 (2d Cir. 1988); *United States v. Neumann Caribbean Int'l, Ltd.*, 750 F.2d 1422 (9th Cir. 1985). Section 57 evenly tracks common law vouching practices.

1980), a third-party defendant independently appealed from errors in the main case and obtained a reversal of the judgment entered against the non-appealing defendant.[11/]

Cadillac had standing to maintain the appeal based upon its substantial interests in the judgment as reflected by its participation and joinder as a third-party defendant in the trial; its duty to indemnify the Government arising from the judgment; and the preclusive effect of the judgment of liability in any subsequent dispute by TriEnda for patent infringement or by the Government for indemnification. In ruling that a party such as Cadillac cannot, as a matter of law, appeal from a judgment of liability without the participation of the Government, the Federal Circuit has created a confusing precedent, directly at odds with this Court's decisions and the statutory framework established by Congress. Plenary consideration of the matter by this Court is essential.

II.

The Decision Below Raises Important Problems In The Area Of Government Procurement.

The decision below seriously impacts both third party suppliers of goods and services to the Government as well as the Government itself. If allowed to stand, the Federal Circuit's decision will adversely affect all parties similarly situated to Cadillac, *i.e.*, companies contractually obligated to indemnify the Government for liability arising from the Government's use of goods and services

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[11/] The court erroneously believed that in *Kicklighter* the judgment from which the third-party defendant appealed was "entered against both the defendant and the third-party defendant." (p. 5a, *infra*). Rather, the third-party defendant appealed, and obtained a reversal of, the judgment entered only against the defendant in the main case. While it is true that there was a subsidiary judgment entered against the third-party defendant, *Kicklighter* nonetheless holds that a third party can obtain reversal of a judgment entered solely against a non-appealing co-party.

provided by those companies. Essentially, those companies which join as third parties in proceedings before the Court of Federal Claims have no right of appeal from an adverse decision of liability where the Government elects not to appeal. Those companies are then exposed to liability to the Government as an indemnitor due to a Court of Federal Claims judgment from which the indemnitor has no right of appeal.

In a subsequent suit for indemnification, the Government will be forced to relitigate the issues of infringement and validity. However, in the subsequent litigation, the Government will be required to argue that the patent is valid and infringed, contrary to its position in the initial trial. Such duplication is costly, wasteful and could lead to inconsistent results, leaving the Government ultimately liable. Moreover, "affording a litigant more than one full and fair opportunity for judicial resolution of the same issue results in an untenable misallocation of resources." *Blonder-Tongue Labs, Inc. v. Univ. of Ill. Foundation,* 402 U.S. 313, 328-29 (1971).

Alternatively, third party suppliers will require that contracts with the Government contain clauses requiring the Government to participate in appeals from adverse decisions of liability at the Court of Federal Claims. This will cause the Government to participate in unnecessary litigation, thereby wasting Government resources. Thus, the Government will be contractually obligated to pursue such appeals even if it determines that an appeal, for whatever reason, is not warranted.

The number of contracts with the Government evidences the broad-reaching effect of the decision below on third party suppliers of goods and services. For example, between 1989 and 1992, the United States Postal Service alone awarded over 500,000 procurement contracts, with a total value of over $15 billion. POSTAL PROCUREMENT - INFORMATION ON BID PROTEST ACTIVITIES, General Accounting Office (April 1993) at 10, p. 113a, *infra*. All of the companies entering into these contracts are subject to the impact of the Federal Circuit's decision. Because of this widespread and

serious impact on third-party suppliers and the Government itself, this Court should entertain this Petition.

CONCLUSION

For these various reasons, Cadillac respectfully requests that this petition for certiorari be granted.

Respectfully submitted,

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APPENDIX

BEST AVAILABLE COPY

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

94-5035

PENDA CORPORATION
(now TriEnda Corporation),

Plaintiff-Appellee,

v.

THE UNITED STATES,

Defendant,

and

CADILLAC PRODUCTS, INC.,

Third-Party Defendant-Appellant.

DECIDED: December 22, 1994

Before ARCHER, *Chief Judge*, NIES and CLEVENGER, *Circuit Judges*.

CLEVENGER, *Circuit Judge*.

Third-party defendant, Cadillac Products, Inc., appeals the judgment of the United States Court of Federal Claims holding that the claims of Penda Corporation's patent were not invalid and that the U.S. Government used the invention set forth in Penda's patent without license or lawful right. *Penda Corp. v. United States*, 29 Fed. Cl. 533 (1993). The Government, Cadillac's indemnitee, has withdrawn its appeal of this case. Because Cadillac lacks the requisite standing to appeal independently, we dismiss Cadillac's appeal for lack of our jurisdiction.

On July 20, 1988, the U.S. Postal Service awarded Cadillac a contract to supply thermoformed plastic pallets. Penda's U.S. Patent No. 4,428,306 claims pallets constructed of moldable thermoplastic

On appeal, Cadillac does not challenge the conclusions of law or the findings of fact of the Court of Federal Claims, but instead asserts that the '306 patent is invalid for failure to satisfy the enablement or best mode requirements of § 112, ¶ 1. Cadillac argues that it did not waive the § 112, ¶ 1 issues, or alternatively, that it should have been permitted to amend its pleadings to allege such issues. Before any consideration of the merits of these arguments, however, we must decide whether a third-party defendant in the Court of Federal Claims, against which no judgment has been or could be entered, may appeal a judgment against a co-defendant that chooses not to appeal.

Cadillac contends that this court may hear its appeal even though the Government is no longer a party because the Federal Circuit has exclusive jurisdiction "of an appeal from a final decision of the United States Court of Federal Claims." 28 U.S.C. § 1295(a)(3) (Supp. V 1993). Cadillac contends that since the judgment against the Government is a final decision of the Court of Federal Claims this court *ipso facto* has jurisdiction to hear the merits of Cadillac's appeal. Cadillac's plain reading of our jurisdictional statute, however, would allow any person to appeal from a final decision of the Court of Federal Claims. Our statutory jurisdiction is constitutionally circumscribed. Cadillac's contention fails to recognize that a party appealing from such a decision must nonetheless have standing to do so. *Cf. Boeing Co. v. Commissioner of Patents & Trademarks*, 853 F.2d 878, 880, 7 USPQ2d 1487, 1488 (Fed. Cir. 1988) ("Article III limits the role of the federal courts to adjudication of actual 'cases' and 'controversies.' Standing is one element of the case or controversy requirement, and a requirement for appellate jurisdiction." (citations omitted)). Cadillac therefore must demonstrate that it has independent standing to appeal. Cadillac asserts that it has such standing based on its status as a third-party defendant at trial, its financial interests in the outcome of the trial as the Government's indemnitor, or its risk of being bound by the issues of law and fact decided by the Court of Federal Claims. We consider each of these arguments in turn.

A

The parties here do not dispute that Cadillac agreed to indemnify the Government against liability under its contract to supply thermoformed plastic pallets, and that Cadillac thus has "an interest in the subject matter of [a] pending action" before the Court of Federal Claims sufficient to confer third-party defendant status at trial under Rule 14(a)(1). Relying on *Kicklighter v. Nails By Jannee, Inc.*, 616 F.2d 734, 738 n.1 (5th Cir. 1980), Cadillac contends that a third-party defendant has standing to appeal errors in the main case notwithstanding the absence of the defendant on appeal. The judgment, however, from which the third-party defendant in *Kicklighter* sought to appeal was entered against both the defendant and the third-party defendant. In contrast, the judgment of the Court of Federal Claims was not entered against Cadillac. The only judgment before us is one against the Government that the Government is content to satisfy.

Furthermore, the Court of Federal Claims is without jurisdiction to determine Cadillac's contractual obligations to indemnify the Government. *See Carrier Corp. v. United States*, 534 F.2d 250, 251, 194 USPQ 82, 83 (Ct. Cl. 1976).[15/] A third-party defendant noticed under Rule 14(a)(1) "may assist the [Government] in the defense of the case, or it may offer additional evidence on its own behalf and advance such legal contentions as it deems appropriate in the

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[15/] The Court of Federal Claims is without jurisdiction to adjudicate the Government's claims against third parties unless (1) the Government's claim is for the recovery of money which it has already paid out to the third party in respect of the transaction or matter which constitutes the subject matter of the suit, or (2) the third party appears and asserts a claim or an interest in a claim against the United States. *See* 41 U.S.C. § 114(b) (Supp. V 1993). Furthermore, the Government's claim "for the recovery of money" is intended to apply only to those situations where the Government is sued for money that was incorrectly disbursed to a third party under a mistake of fact or law. *See Bowser, Inc. v. United States*, 420 F.2d 1057, 1062-63, 164 USPQ 460, 463 (Ct. Cl. 1970).

protection of its interest." *Bowser*, 420 F.2d at 1060, 164 USPQ at 461 (citations omitted). The grant of third-party defendant status under Rule 14, however, does not affect the jurisdiction of the Court of Federal Claims. As our predecessor court noted, "[a] general appearance by a person may be sufficient to give a court *in personam* jurisdiction over that individual, but it has long been held that the actions of a party cannot accord a court subject matter jurisdiction where that jurisdiction is otherwise lacking." *See Uram v. United States*, 216 Ct. Cl. 418, 420-21 (1978) (order) (citations omitted).

Because of the limited subject matter jurisdiction of the Court of Federal Claims, no claim before that court was directed against Cadillac. From the perspective of the Court of Federal Claims, Cadillac was at most a nominal defendant. In any event, we are unaware of any case in which a court has held that a third-party defendant's status as a party at trial automatically confers Article III standing on such a party seeking appeal. *Cf. Diamond v. Charles*, 476 U.S. 54, 68 (1986) (holding that a party's status as an intervenor at trial was insufficient alone to confer standing to appeal absent the defendant's participation because the intervenor failed independently to satisfy the requirements of Article III). We hold that Cadillac does not have standing to appeal based solely on its status as a third-party defendant at trial.

B

Cadillac also contends that its potential liability as an indemnitor is a sufficient interest to demonstrate standing to appeal. Penda asserts that because the Court of Federal Claims judgment grants relief only against the Government and makes no independent finding of liability against Cadillac, Cadillac is not an aggrieved party *per se*. Indeed, the law is well-settled that a party lacks standing to appeal from a judgment by which it is not aggrieved. *See Knight v. Alabama*, 14 F.3d 1534, 1556 (11th Cir. 1994); 15A Charles A. Wright & Arthur R. Miller, *Federal Practice and Procedure* § 3902 & n.5 (2d ed. 1992) (collecting cases).

Relying on *Maine v. Taylor*, 477 U.S. 131, 136 (1986), Cadillac argues that so long as the would-be appellant has a genuine interest in

the outcome of the trial court controversy, a judgment issued specifically against that party is not a prerequisite to confer standing to appeal. In *Maine*, however, the State had standing to appeal not merely because it had a sufficient interest in the outcome of the controversy as Cadillac asserts, but rather because a federal statute expressly authorized the State of Maine to intervene in the case with "all the rights of a party," 28 U.S.C. § 2403(b) (1988), and another federal statute conferred standing at the Supreme Court to "any 'party relying on a State statute' held invalid under federal law by a Court of Appeals." *Maine*, 477 U.S. at 136 (appealing under authority of 28 U.S.C. § 1254(2) (1982), *repealed by* Pub. L. No. 100-352, § 2(a), 102 Stat. 662, 662 (1988)). Cadillac's reliance on *Maine* is thus misplaced. We remain unaware, however, of any case in which a court has held that a party lacks standing to appeal solely because that party is not named in the judgment from which appeal is sought. Therefore, even though the Court of Federal Claims did not enter judgment against Cadillac, we consider whether Cadillac was otherwise aggrieved by the judgment.

The law is well-settled that a party is generally not aggrieved by, and thus lacks standing to appeal from, a judgment rendered against a co-party. *See* 15A Wright & Miller, *supra*, § 3902 & n.11 (collecting cases); *see also Libby, McNeill, & Libby v. City Nat'l Bank*, 592 F.2d 504, 511 (9th Cir. 1978) ("[A] party may only appeal to protect its own interests, and not those of a coparty."); *cf. Bender v. Williamsport Area Sch. Dist.*, 475 U.S. 534, 543 (1986) (dismissing a school board member's appeal for lack of standing in the absence of the co-defendant school district because judgment was entered against the board member only in his official capacity, not in his individual capacity); *McLaughlin v. Pernsley*, 876 F.2d 308, 313 (3d Cir. 1989) (dismissing appeal of a preliminary injunction by the third-party defendant because the injunction did not run against that party). Cadillac asserts, however, that its appeal seeks to protect its own considerable interests as the Government's indemnitor, not the interests of the Government.

At the outset, such a contention creates a paradox. Because this court is without jurisdiction to relieve the Government of an adverse

judgment from which the Government no longer appeals, Cadillac's appeal essentially asks this court to overturn findings and conclusions of the Court of Federal Claims that are unfavorable to Cadillac, and yet to apply such a holding only to Cadillac. Courts, however, have not recognized standing to appeal where a party does not seek reversal of the judgment but asks only for review of unfavorable findings. *See* 15A Wright & Miller, *supra*, § 3902 & n.6 (collecting cases).

Even if Cadillac is ultimately held liable to the Government under their indemnification agreement, Cadillac's pecuniary interest in this case is indirect and consequential, rather than direct and immediate. *See Libby*, 592 F.2d at 512. Cadillac is therefore not aggrieved by the Court of Federal Claims judgment against the Government for purposes of determining Article III standing. Cadillac's interest as the Government's indemnitor is thus insufficient to vest Cadillac with independent standing to appeal that judgment. *See Morrison-Knudsen Co. v. CHG Int'l, Inc.*, 811 F.2d 1209, 1214 (9th Cir. 1987) ("An indirect financial stake in another party's claims is insufficient to create standing on appeal."), *cert. dismissed*, 488 U.S. 935 (1988).

C

Cadillac finally contends that it has standing to appeal because the Court of Federal Claims judgment may preclude Cadillac from raising the issue of patent invalidity in any subsequent district court action by the Government concerning Cadillac's liability under the indemnification agreement or by Penda alleging infringement by Cadillac.

Under generally accepted principles, however, the Court of Federal Claims judgment cannot support the assertion of issue preclusion against Cadillac by either the Government or Penda. First, the Government and Cadillac were not adversarial parties before the Court of Federal Claims.

> Parties who are not adversaries to each other under the pleadings in an action involving them and a third party are bound by and entitled to the benefits of

> issue preclusion with respect to issues they actually litigate fully and fairly as adversaries to each other and which are essential to the judgment rendered.

Restatement (Second) Judgments § 38 (1980). The Government and Cadillac were allies, not adversaries, on all issues in suit before the Court of Federal Claims. The judgment of that court thus cannot support an assertion of issue preclusion by the Government against Cadillac.

Second, Penda could not assert issue preclusion in a subsequent infringement action against Cadillac because Cadillac was only a nominal defendant before the Court of Federal Claims.[16/]

> A person named as a defendant in an action is not bound by the judgment therein if the subject matter of the action involves an obligation other than his own and that fact is known to the plaintiff.

Id. § 37 cmt. f. Because the subject matter of Penda's action in the Court of Federal Claims involved the recovery of § 1498(a) compensation from the Government, i.e., involved an obligation other than Cadillac's, and that fact was known to Penda, the Court of Federal Claims judgment cannot support an assertion of issue preclusion by Penda against Cadillac.

Lastly, neither the Government nor Penda could assert issue preclusion in a subsequent action against Cadillac because our holding today precludes Cadillac, as a matter of law, from obtaining review of the Court of Federal Claims judgment.

[16/] We note that while Cadillac is presently a licensee of Penda's '306 patent, having entered into a license with Penda during the pendency of this action, an infringement suit might follow the termination of that license.

> Although an issue is actually litigated and determined by a valid and final judgment, and the determination is essential to the judgment, relitigation of the issue in a subsequent action between the parties is not precluded in the following circumstance[ ]:
>
> (1) The party against whom preclusion is sought could not, as a matter of law, have obtained revie w of the judgment in the initial action; . . . .

Id. § 28. It is axiomatic that a judgment is without preclusive effect against a party which lacks a right to appeal that judgment. Thus, it is completely circular to argue, as Cadillac does, that it must have a right to appeal to challenge trial holdings when, if such appeal rights are denied, the findings have no preclusive effect.

In sum, Cadillac's argument that it must be given standing to challenge the judgment because of its preclusive effects is unfounded. Cadillac simply bears no risk from that judgment.

IV

For these reasons, we hold that Cadillac lacks the requisite standing to prosecute its appeal. Cadillac's appeal thus presents us with no Article III case or controversy for decision. Cadillac's appeal therefore must be dismissed for want of jurisdiction.

DISMISSED

UNITED STATES COURT OF FEDERAL CLAIMS

No. 473-89C

PENDA CORPORATION, Plaintiff,
v.
THE UNITED STATES, Defendant
and
CADILLAC PRODUCTS, INC.
Third-Party Defendant.

September 30, 1993

OPINION

BRUGGINK, *Judge*.

Penda Corporation ("Penda") owns a patent on a plastic pallet, U.S. Letters Patent No. 4,428,306 ("the '306 patent"). Defendant, acting through the United States Postal Service ("Postal Service"), procured 640,000 pallets from third-party defendant Cadillac Products, incorporated ("Cadillac"). Under its contract, Cadillac supplied the Postal Service with two types of pallets ("the accused pallets"). Penda contends that its patent reads on both of these pallets.

Penda claims that by this procurement the Postal Service used the '306 patent without providing just compensation as required by 28 U.S.C.A. § 1498(a) (West 1973 & Supp. 1993). The Postal Service and Cadillac ("defendants") counter that the '306 patent is invalid as obvious under 35 U.S.C. § 103 (1988). Additionally, defendants contend that the '306 patent is invalid for failing particularly to point out and specifically claim the subject matter the inventors regard as their invention as required by the second paragraph of 35 U.S.C. § 112 (1988).

I. BACKGROUND.

A. The Patent.

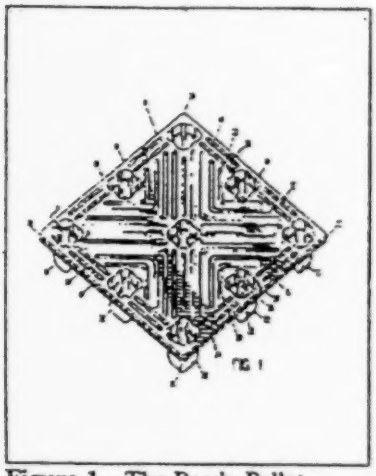

Figure 1. The Penda Pallet.

The '306 patent covers a design for a pallet. A pallet is an object used in material handling to provide an interface between bulk loads and a mechanized method of moving them. The '306 patent concerns a pallet made of two sheets of thermoformable plastic, which are molded and fused to form a single structure as set forth in the patent claim. Figure 1 is a perspective view, taken from the patent, of the pallet in suit. Pallets may be made of many materials, such as various types of wood and plastic. They have either one or two load-bearing surfaces. The pallet claimed in the '306 patent and the accused pallets have one load bearing surface. In addition, the pallets claimed have feet on which the pallet rests. The pallet feet are formed from the same sheets of material as the load bearing deck.

Thermoforming is a process by which sheets of plastic are molded into useful objects through the application of heat and differential pressure. In twin-sheet thermoforming, the manufacturer simultaneously molds the product out of two sheets of plastic, which the thermoforming process fuses together.

1. Claims.

The '306 patent contains seventeen claims. Penda contends that the first 200,000 pallets that Cadillac sold the Postal Service infringe claims one through six and nine through eleven of the '306 patent. Penda also contends that the 440,000 modified pallets that Cadillac sold to the Postal Service infringe claims nine through twelve, fifteen, and sixteen of the '306 patent. The court has not found it necessary to address all the claims. If even a single claim is valid and infringed, plaintiff is due compensation. Because claims nine through eleven are the broadest in the patent, the court directs its attention toward them. These claims read:[1/]

> 9. A pallet (10) comprising:
>
> a substantially planar load-bearing member (12) formed from an upper sheet of material (13) and a lower sheet of material (15) located generally in fixed parallel relationship to each other; and
>
> a plurality of feet (32) depending from the load-bearing member (12), the feet (32) being formed as a downwardly depending portion of each of the two sheets of material (13, 15) forming an upwardly opening pocket (36) on the interior thereof, each of the feet (32) including integral solid wall portions (40) formed of deformed portions of both of the sheets of material (13, 15) fused together.
>
> 10. A pallet (10) as claimed in claim 9 wherein there are also hollow wall portions (34) separating the solid wall portions (40) in each of the feet (32).

[1/]The numbers in parentheses refer to the numbers used in the patent drawing to identify elements of the pallet.

> 11. A pallet (10) as claimed in claim 9 wherein the solid wall portions (40) of each of the feet (32) are formed from portions of both of the two sheets of material (13, 15) joined together and wherein each of the feet (32) terminates in a foot floor (42) which is an integral, planar horizontal sheet of solid material also formed of portions of both of the two sheets of material (13, 15) fused together.

(the '306 patent, col. 10, ll. 16-40)

Defendants admit that claims nine and ten read on the accused devices, but assert that they are invalid. Those claims describe the foot design in detail, but only describe the deck as consisting of two sheets in a fixed parallel relationship. Claim nine describes the feet as having integral solid wall portions. The limitation of integral hollow wall portions separating the integral solid wall portions is introduced in claim ten.

Claim eleven depends from claim nine and thus incorporates its limitations. It does not, however, incorporate the additional limitation of integral hollow wall portions added by claim ten. Claim eleven adds the limitation that each foot "terminates in a foot floor (42) which is an integral, planar horizontal sheet of solid material also formed of portions of both of the two sheets of material (13, 15) fused together." ('306 patent at col 10, ll. 33-40.) Defendants argued that claim eleven does not read on the accused devices because it limits the design of the foot floor to one containing a floor of single thickness generally parallel to the surface of the load-bearing member.

2. Prosecution History.

The inventors filed the application for the patent in suit on October 9, 1981. The application names William Dresen, Harlon Breezer, and Bill Price as coinventors. Also at that time, they filed their oath of inventorship as required by 35 U.S.C. § 115 (1988),

stating, among other things, that they regarded as their invention the subject matter of the claims.

In January 1983, the examiner rejected initial application claims one through three, six through ten, and twelve through nineteen as being either anticipated by prior art or obvious to one of ordinary skill in the art. The examiner objected to the remaining claims as being dependent upon rejected claims, but found them otherwise allowable.

In response, on July 26, 1983, the applicants amended claims one, ten, twelve, and sixteen of the application to incorporate all the limitations of the application's original claim four. They amended application claim eighteen to depend from application claim sixteen. They canceled claims four and seventeen, and renumbered the remaining claims. The examiner allowed the revised claims on September 25, 1983. The patent issued January 31, 1984.

3. Specification and Lexicography.

The specification describes the pallet feet:

> It is another object of the present invention to provide such a pallet in which the legs elevating the load-bearing member of the pallet off of the surface have a particularly high compressive strength so that the pallet has a large capacity.

('306 patent at col. 1, ln. 66 through col. 2, ln. 2.)

It further described the preferred embodiment:

> The feet 32 of the pallet 10 are also particularly constructed so as to be extremely strong and extremely resistant to deformation or collapse. As can be seen by referring to FIGS. 5 and 6, each of the feet 32 has alternating solid portions 40 and hollow wall portions 34 spaced about the periphery of the foot

> 32. The fact that the solid portions 40 alternate with the hollow portions 34 makes the feet 32 stronger and more crush resistant than would be possible if the entire periphery of the foot was constructed from either solid or hollow material. The solid portions 40 serve in essence as stiffening ribs for the hollow portions 34, while the hollow portions 34 break up the continuity of the solid portions 48 so that the overall strength of each of the feet 32 is stronger than would be if the entire foot was constructed of solid material and the resistance of the foot 32 to flexing under a load is greatly increased.

('306 patent at col. 7, ll. 36-52.) Figure 2, a drawing from the '306 patent, illustrates this description.

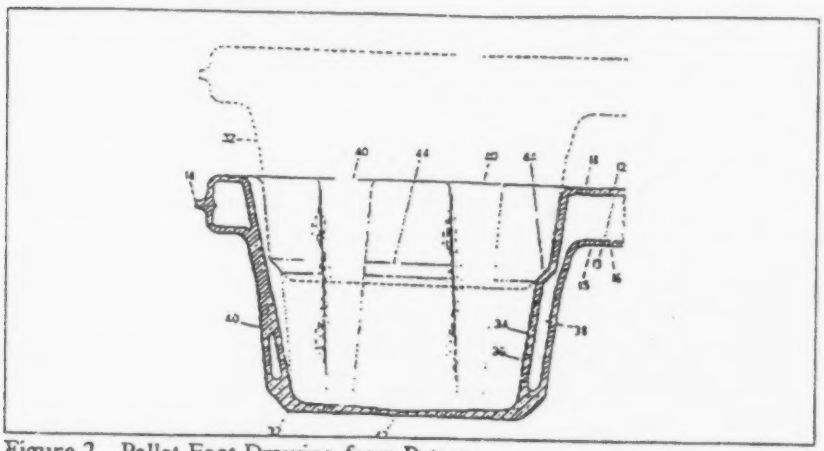

Figure 2. Pallet Foot Drawing from Patent.

Each of the alternative embodiments also contains the alternating hollow and solid structure. Not all of the claims, however, are limited to legs in which hollow portions separate the fused solid portions. Defendant contends, and plaintiff disputes, that the patent does not teach the advantage of a solid foot without hollow portions. The patent does indicate that one aspect of the present invention is

that the feet are stronger than they would be if the foot were completely solid. ('306 patent col. 7, lines 46-52.)

The specification describes the foot floor in the preferred embodiment as being "formed along the bottom of the foot 32, with the floor 42 of each foot being a planar, single-thickness section generally parallel to the load-bearing member 12." ('306 patent, col. 4, ll 31-35). In an alternative embodiment, the specification describes the foot floor as being "provided with a canted bottom surface so as to drain toward the drain hole 143 provided in the center thereof so that fluid received inside of the foot 132 would drain out the drain hole 143." ('306 patent col. 8, ll 45-49.) In this described alternative embodiment, the drain hole in the foot is centrally located.

4. The Inventors and the Invention.

William L. Dresen is President of Penda and has worked for it since 1978. Before joining Penda, he was Director of Research and Development at Glasfab, a company engaged in thermoplastic molding as well as reinforced fiberglass and urethane molding. Penda purchased Glasfab in 1978, and Dresen became General Manager of the combined companies. At that time, the company had $10,000,000 in total annual sales, of which thermoplastics accounted for one fifth. The company had between 50 and 60 employees.

Among articles that Penda manufactured before it designed the pallet at issue were single sheet thermoform pallets. These pallets had certain disadvantages. Most notably, they tended to flex under stress and could not hold heavy static loads, being limited to a load range of 1,000 to 1,500 pounds. Comparable wooden pallets could carry as much as 20,000 to 30,000 pounds. Wood pallets have the disadvantage, however, of being less durable. They are brittle and fracture easily. Also, they are more difficult to clean. Consequently, Penda's customers wanted a heavier weight plastic pallet. Dresen sought plastic pallets that met the following criteria: they had to be

stronger than existing pallets, that is, they could not flex; they had to be comparable in weight-bearing capacity to wooden pallets; and they had to have the durability of plastic. He found no such pallets to be available in the market.

It occurred to Mr. Dresen that Penda could use its twin-sheet thermoforming machine to build a stronger pallet. To develop a twin-sheet pallet, Mr. Dresen organized a small group of Penda employees – Harlon Breezer, vice president of sales at Penda; himself; and Bill Price, a consultant to Penda in thermoplastics. The group started meeting and brainstorming in early 1980. Dresen was in charge and served as the group's facilitator.

Mr. Price was working as a consultant for Penda. He testified that he had also earlier sensed the need for a stronger plastic pallet. In part, these observations occurred while he was traveling with Mr. Dresen. After deciding that traditional thermoform pallets were inadequate, he approached Mr. Dresen who, it turned out, had the same idea. Mr. Price discussed his ideas with both Mr. Dresen and Mr. Breezer.

Mr. Price did the drawings during the development of the invention. His expertise is in designing parts and sketching parts and tools. Mr. Price testified that the inventors' first drawing was a rough engineering sketch of a construction he felt would overcome some of the problems of single-sheet pallets. The pallet leg in this first drawing had two distinct sidewalls. Over time, the inventors developed this structure into the alternating solid and fused sidewalls disclosed in the patent.

After the inventors had a design for the pallet foot that they thought would work, they made a wooden model of that section of the plastic part. Mr. Price testified that the design objective of the inventors was to combine the strongest legs with the strongest deck. To this end, they considered the pallet legs separate from the pallet deck. Their intention was then to integrate the leg into the deck

design. If they could design an appropriate foot, it was felt that the deck design would be easy. Mr. Breezer confirmed that the inventors worked out a leg design before making a wooden pattern, then added a deck design after they had a workable foot. Mr. Price testified that although the use of wooden models was common, it was unusual to test part of a design separate from the whole. The inventors did so because they initially considered the risk of failure in the pallet foot to great to justify the expense of making a model for the whole pallet. They made the model of the foot section when they felt they had a formable design.

After several months of work, the inventors had the design they wanted. Fusing together portions of the leg sidewalls imparted to the pallet sufficient compressive strength to withstand heavy loads. In addition to this strong pallet foot, the inventors had a design for the pallet deck that provided good rigidity.

B. The Accused Pallets.

The accused pallets are nestable, twin-sheet, thermoform items. They have a deck portion in which the two sheets are generally parallel to one another, and downwardly depending legs in which portions of the sheets in the sidewall are fused together. In each of the accused pallets, the foot floor has ridges on the interior surface that are not fused to the outer sheet. Although the accused pallets have many other features, these are the only ones relevant to an analysis of infringement with respect to claim eleven. As explained below, the court deems it unnecessary to discuss the other claims of the patent. Defendants contend that because of these ridges in the foot floor, the feet in the accused pallet do not satisfy claim eleven's limitation of "an integral planar horizontal sheet of solid material." All the pallets designed by Penda had a solid foot floor. None showed hollow spaces in the foot floor. Although Cadillac actually produced two different models of its pallets, the differences between these models lay mainly in the pattern of channels appearing in the deck.

The differences that did exist between the pallet feet in the two runs are not significant in discussing infringement of claims nine and eleven.

C. The Procurement.

Marshall Weiss of the Postal Services Engineering and Development center first learned of Penda's pallet through a design firm. He contacted Penda and visited its facility to learn about the company's products. In January 1987, the Postal Service purchased 500 Penda pallets for evaluation. The Postal Service purchased 20,000 additional Penda pallets in October 1987, in conjunction with the purchase of other pallets made of structural foam. After testing the structural foam and thermoform pallets under field conditions, the Postal Service concluded that the thermoform Penda pallet stood up better than the structural foam pallet.

The Postal Service contracted with Shuert/Oakland to design a Postal Service pallet and supply prototypes. Shuert/Oakland supplied the prototypes in April 1988. At that time, however, a contract dispute arose, and the Postal Service was not able to follow through on its plans with Shuert/Oakland. The Postal Service decided to procure pallets in production quantities. It created a pallet specification describing how the pallet was to function. The specification was derived from an earlier specification used to purchase structural foam pallets and pallets molded from compressed wood fibers. It contains requirements as to the gross shape, of the pallet: a single deck with nine feet. The Postal Service knew such pallets were feasible because of Penda's commercial product and the Shuert/Oakland contract. The contract required the contractor to supply a design that the Postal Service would have an unlimited right to use.

Cadillac Products is a plastics company located in Troy, Michigan. It was founded in 1946 to make packaging materials.

About fourteen percent of the company's business is thermoforming. Its largest product area is automotive parts, which it makes by thermoforming and injection molding.

Cadillac first learned of the Postal Service's interest in a plastic pallet at a vendor orientation seminar conducted by the Postal Service. The Postal Service issued its Request for Proposals on April 4, 1988. When the proposals were opened on May 20, 1988, Cadillac was the low bidder. Marshall Weiss and other Postal Service employees conducted a preaward survey of Cadillac's facilities. The Postal Service awarded Cadillac the contract on July 20, 1988. About the time of bid opening, Cadillac began to prepare a design. For that purpose it hired WolPac Co. Mr. Jim Waun, a WolPac employee, did the work.

In June, 1988, Mr. Dresen and Mr. Markos, Penda's chief executive officer, approached Mr. Michael Williams, a Cadillac officer, at the National Plastics Exhibition. They suggested he review the '306 patent for possible infringement. Shortly thereafter, Cadillac began to redesign the pallet with the purpose of avoiding infringement. In July 1988, Cadillac notified the Postal Service of Penda's patent and requested additional time to prepare a design. Cadillac decided to incorporate different deck characteristics, and told WolPac to modify the design. Mr. Weiss of the Postal Service was aware of Cadillac's effort, but did not recommend any design changes. The Postal Service refused to give Cadillac relief under the contract or to grant Cadillac additional time, to redesign the pallet. After the redesign, Cadillac built prototypes from wood patterns and submitted them to the Postal Service for approval. Beginning November 28, 1988, Cadillac delivered pallets under the contract.

II. DISCUSSION.

A. Infringement.

Plaintiff contends that the accused Cadillac pallets read on claim eleven of the '306 patent. Defendants dispute this contention, but admit that claim nine, from which claim eleven depends, reads on the accused devices.[2/] Moreover, there is no question that the accused devices contain a foot floor which is solid, integral, and formed of portions of the two sheets fused together. They contain a set of ribs on the upper, interior surface of the foot floor. There may or may not be a space between the upper sheet of material and the lower sheet of material at the ribs. The same material that forms the ribs composes the rest of the pallet. Defendants contend that this foot floor is not "an integral, planar horizontal sheet of solid material also formed of portions of both of the two sheets of material fused together." The point of contention is whether the foot floor is "planar horizontal."

Plaintiff maintains that the accused devices literally infringe claim eleven of the patent because the ribs in the foot floor are merely additional structure, by which defendant does not avoid infringement.[3/] The plaintiff bears the burden of proving infringement by a preponderance of the evidence. *Z.M.I. Corp. v. Cardiac Resuscitator Corp.*, 844 F.2d 1576, 1582 (Fed. Cir. 1988); *Lee v. Dayton-Hudson Corp.*, 838 F.2d 1186, 1187 (Fed. Cir. 1988);

[2/]Defendants also conceded that claim ten, which depends from claim nine, reads on the accused devices.

[3/]The court uses the terms "infringe" and "infringement" to denote liability under section 1498 for unauthorized use by the government. This usage is customary in the Court of Federal Claims. *See, e.g., Motorola Inc. v. United States*, 729 F.2d 765, 768 (Fed. Cir. 1984); *Messerschmidt v. United States*, No. 642-89C, slip op. at 54 (Fed. Cl. July 30, 1993); *Judin v. United States*, 27 Fed. Cl. 759, 773 (1993); *Deuterium Corp. v. United States*, 16 Cl. Ct. 454, 459 n.3 (1989).

Mannesmann Demag Corp. v. Engineered Metal Prod. Co., 793 F.2d 1279, 1282 (Fed. Cir. 1986). The inquiry comprises two distinct steps: first, the court interprets the claims of the patent without reference to the accused device; second, it compares the properly interpreted claims to the accused device to determine whether it infringes. *Hormone Research Found. Inc. v. Genentech, Inc.*, 904 F.2d 1558, 1562 (Fed. Cir. 1990), *cert. dismissed*, 111 S. Ct. 1434 (1991); *S.R.I. Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1118 (Fed. Cir. 1985).

1. Claim Interpretation.

Claim interpretation must precede the ultimate determination of infringement, because the claims of the patent delineate the extent of the property right conferred. *Moeller v. Ionetics, Inc.*, 794 F.2d 653, 656 (Fed. Cir. 1986); *A.B. Dick Co. v. Burroughs Corp.*, 713 F.2d 700, 702 (Fed. Cir. 1983), *cert. denied*, 464 U.S. 1042 (1984). In general, the meaning given to terms in a patent is the meaning that one of ordinary skill in the art would ascribe to them.[4/] *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1387 (Fed. Cir. 1992). In interpreting the claims of a patent, the court refers to the claim itself, other claims, the specifications (including the drawings), the prosecution history, and extrinsic evidence presented at trial. *Hormone Research Found.*, 904 F.2d at 1562; *LaBounty Mfg. v. United States Int'l Trade Comm'n*, 867 F.2d 1572, 1574 (Fed. Cir. 1989).

The dispute between the parties about the proper interpretation of the language of claim eleven centers on the phrase "each of the feet (32) terminates in a foot floor (42) which is an integral, planar horizontal sheet of solid material also formed of portions of both of the two sheets of material (13, 15) fused together." Similar language

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[4/] An explicit discussion of the level of ordinary skill in the art appears *infra* in the discussion of nonobviousness. Use of the term in the present analysis refers to the same standard.

appears in claim fifteen of the patent: "terminating in a horizontal, integral foot floor (142)." Claim fourteen describes the foot floor as "planar," while claim fifteen does not.

A determination of the ordinary meaning of a term is not dispositive without reference to the specification and prosecution history. *Z.M.I. Corp.*, 844 F.2d at 1580. In the case at bar, the drawings and descriptions in the specification do suggest the meaning intended by the applicants. The specification is significant because the applicant must use language consistently in the claims and the specification. *Z.M.I. Corp.*, 844 F.2d at 1580; *McGill, Inc. v. John Zink Co.*, 736 F.2d 666, 674 (Fed. Cir.), *cert. denied*, 469 U.S. 1037 (1984). Figure six of the specification illustrates the patent foot floor. The upper surface of that foot floor is clearly not flat; it slopes to the middle. The reference number in the drawing for the foot floor is forty-two. This same reference number appears in claim eleven. One of ordinary skill in the art referring to the specification to interpret claim eleven would be drawn to figure six as an illustration of what the patentee meant by the phrase "integral, planar horizontal sheet," and would see that the upper surface need not be everywhere parallel to the lower.

Similarly, figure nine of the patent illustrates a foot floor on which the upper surface slopes to the middle. In fact, none of the patent's drawings illustrate a foot floor in which the upper, interior surface is level, horizontal, and everywhere parallel to the bottom of the pallet foot. The reference numbers for the foot floor in figure nine do not appear in claim eleven, but they do appear at the corresponding place in the similar language of claim fifteen. The specification describes a foot floor with a "canted" surface. ('306 patent, col 8 ll. 47.) A review of other claims may provide significant evidence regarding the scope of a claim in issue. *Fromson v. Advance Offset Plate, Inc.*, 720 F.2d 1565, 1570 (Fed. Cir. 1983). A person of ordinary skill in the art seeking to interpret claim fifteen of the patent would refer to figure nine for an illustration of what the patentees meant by the term "horizontal, integral foot floor." Applying

that knowledge in interpreting the phrase "integral, planar horizontal sheet" in claim eleven, that person would conclude that the upper surface need not be parallel at all points to the lower.

Representations made during the prosecution history, including amendments and arguments, are also relevant. *Jonsson v. Stanley Works*, 903 F.2d 812, 818 (Fed. Cir. 1990); *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 867 (Fed. Cir. 1985). The prosecution history limits claim interpretation by precluding interpretations disclaimed or disavowed during the prosecution. *LaBounty*, 867 F.2d at 1574; *Z.M.I. Corp.*, 844 F.2d at 1580. The prosecution history of the '306 patent indicates that the applicants amended claim eleven after the first office action. The plaintiff added the word "integral" to indicate that the foot floor was made of one material fused together, and replaced the word "joined" with the word "fused" to distinguish prior art references teaching a pallet with two sheets attached to one another by an adhesive. Neither of these changes, by itself, prohibits the plaintiff from contending that the claim does not require that the upper, interior surface of the foot floor be smooth, if the language of the claim is sufficiently broad to encompass such a structure.

Courts may refer to general and specialized dictionaries in interpreting terms. *See Fromson*, 720 F.2d at 1571. "Planar" means "1: of or relating to a plane: lying in one plane 2: having a flat, two dimensional quality," WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY OF THE ENGLISH LANGUAGE, UNABRIDGED 1730 (Philip B. Gove ed., 1976), or "belonging to, situated in, or related in some way to a plane." 9 THE OXFORD ENGLISH DICTIONARY -959 (J.A. Simpson & E.S.C. Weiner eds., 1989). The court, however, would not rely on these definitions if it appeared that one of ordinary skill in the art would have interpreted the claim differently.

To interpret the claims, courts may also refer to extrinsic evidence. *Texas Instruments Inc., v. United States Int'l Trade Comm'n*, 988 F.2d 1165, 1171 (Fed. Cir. 1993); *Hormone Research*

Found., 904 F.2d at 1562. Several expert and factual witnesses were called on the question of infringement. Of particular note, plaintiff called Dr. John E. Johnson and Mr. John W. Hofeldt, Esq., as expert witnesses, and defendant called Mr. Larry Stiller and Dr. Paul Sher Singh.

Dr. Johnson is an emeritus professor in the College of Engineering at the University of Wisconsin. He received a B.S. in civil engineering from Gonzaga University, an M.S. in structural engineering and structural design from Stanford, and a Ph.D. in mathematics and structural engineering with a minor in engineering mechanics from Purdue University. In the early sixties, Dr. Johnson developed a structural system of using plastics for buildings and roofing systems. He has done much research through the years both in an academic and a corporate setting. His handbook on the structural use of plastics has become an industry standard. As a full professor, he taught most of the design and analysis courses his department offered, as well as many seminars on the structural use of plastics.

Mr. Hofeldt obtained a bachelor's degree in religious philosophy from the University of Wisconsin in 1943 and, after serving a stint in the navy, a law degree from the University of Wisconsin in 1947. He practiced law from 1955 until 1990, principally in the litigation of patent cases. At the time of trial, he was of counsel with the firm of Woods, Philips, Van Santen, Hoffman and Ertel. He has taught patent litigation and infringement courses at John Marshall Law School, which courses included within their ambit claim interpretation and infringement proofs.[5/]

[5/]The court did not find convincing defendants' efforts to impeach Mr. Hofeldt's credentials by administering an oral true-false exam on the law of claim interpretation. For example, although defendants correctly contend that narrow claim limitations may not be read broadly to avoid invalidity or escape infringement,

(continued...)

Mr. Stiller learned the art of thermoforming principally through apprenticeship. Before graduating high school in 1960, he worked in his father's prototyping shop. He learned other aspects of the trade from other shops through his father's contacts.

Dr. Singh is an assistant professor at Michigan State University in the School of Packaging, where he has been on faculty since 1985. He received a B.S in chemical engineering in 1982, an M.S. in packaging in 1983, and a Ph.D. in agricultural engineering in 1987.[6] He worked at Michigan State in 1982 and 1983 as part of his degree program. He worked briefly at the University of California, Davis until he ceased his Ph.D. studies there, then worked for IBM in Rochester, Minnesota for a year. About six years ago he started a

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[5](...continued)
defendants wrongly maintain that plaintiff was guilty of doing so. Claim fourteen explicitly mentions thermoforming because it contains a limitation concerning adding a nonskid surface to the pallet. Other claims, such as claim eleven, contain no limitation as to a nonskid surface. Certainly, it would be illegitimate to read this limitation into one of the broader claims. The court finds, however, that one of ordinary skill in the art would have interpreted the other claims of the patent as being addressed to thermoforming. There is adequate language in the claims, such as the words "fused" and "deformed," to suggest this process, and when the claims are read in light of the specification, the conclusion that the claims are limited to a pallet made by thermoforming or equivalent process is inescapable.

[6]Dr. Singh explained that, historically, the School of Packaging started as part of the Department of Forestry within the College of Agriculture and Natural Research. He did his Ph.D. in agricultural engineering because the School of Packaging did not have a doctoral program at that time. It was not clear whether his description referred to the discipline of packaging in general or the particular School of Packaging at Michigan State, where he received his degrees.

conference on palletization unitization, which now meets annually. Also, he chairs the task group on a new pallet standard within American Standards for Testing and Materials, a professional society that develops standards and procedures to test and evaluate different types of systems.

None of the evidence indicates that one of ordinary skill in the art would assign the terms at issue meanings different from the common meaning given in the dictionary. Dr. Singh's use of the term to mean "in one plane, flat," is consistent with the dictionary definition. Similarly, Mr. Stiller's interpretation of the term as meaning "on one plane" comports with the common definition. The court concludes that the term "planar horizontal" in claim eleven refers to the quality of being flat, in one plane, or of horizontal orientation. From the testimony of Dr. Johnson and Mr. Hofeldt that they consider the foot floor of the accused pallets planar, it would seem that they do not adopt a more restrictive definition of the term. Inasmuch as Dr. Johnson's and Mr. Hofeldt's testimony inseparably involves applying the claim to the accused device, current Federal Circuit precedent prohibits its use in interpreting the claim language. Therefore, the court refers to their testimony only by way of comparison. The court does not construe claims in the light of the accused device, nor does it construe them to "cover" or "not cover" the accused device. *S.R.I. Int'l*, 775 F.2d at 1118.

Based on all the forgoing considerations (the claim language, the specification, the prosecution history, the dictionary definitions, and the extrinsic evidence that the court may consider), the court concludes that in the claim the phrase "planar horizontal" means of or relating to a plane and generally flat. It does not mean that the two surfaces are everywhere parallel, as urged by defendants.

2. Application of the Claims to the Accused Devices.

With this background understanding of the meaning of the terms in claim eleven, we proceed to determine whether these claims read on the accused devices.[7/] To prove literal infringement, the plaintiff must show that the accused device contains every limitation of the claim. *Intellicall, Inc.*, 952 F.2d at 1389; *Becton Dickinson & Co. v. C.R. Bard, Inc.*, 922 F.2d 792, 798 (Fed. Cir. 1990); *Hormone Research Found.*, 904 F.2d at 1562; *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1577, 1580 (Fed. Cir. 1989); *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 949 (Fed. Cir. 1987), *cert. denied*, 485 U.S. 961 (1988). In determining infringement, the court may only compare the accused devices with the patent, not with a commercial embodiment of the patented invention. *Loctite Corp.*, 781 F.2d at 870. The court has disregarded any evidence that compared the accused pallets to the actual Penda pallet.

Dr. Johnson testified that he considers the foot floor of the accused pallet to be planar. Similarly, Mr. Stiller, a witness for defendant, when asked if he considered the foot floor of the accused pallet planar answered "On one plane? Yes." When counsel for third party defendant specifically directed him to consider both the upper side and lower side of the foot floor, Mr. Stiller replied that the bottom was flat, but that the top was beaded. Plainly, however, his initial reaction was that the foot of the accused device did terminate in a planar foot floor. Mr. Hofeldt testified that he considered the accused pallets to contain a foot floor made of an integral, horizontal sheet of material because he regarded the "bubbles" as additional structure irrelevant to the claim.

Only Dr. Singh, defendant's expert, testified that he did not consider the foot floor planar. He spoke of the ribs as imparting to the foot floor a "vertical component." Yet on direct examination, Dr.

[7/]Inasmuch as it appeared as an affirmative defense, the court considers *infra* whether the claim language is sufficiently definite. For now, it is sufficient to note that the court ultimately resolves the question in favor of the plaintiff.

Singh also spoke of the Cadillac pallet as having "vertical ribs in addition to the integral floor." On cross-examination he spoke of "the addition of these ribs" and stated that he considered the ribs an "addition" to the foot floor.

As Mr. Hofeldt noted, claim eleven is an open claim because it depends from claim 9 which is an open claim using the term "comprising." The addition of new elements does not avoid infringement. *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044 (Fed. Cir.), *cert. denied*, 488 U.S. 825 (1988); *Mannesmann*, 793 F.2d at 1279; *Amstar Corp. v. Envirotech Corp.*, 730 F.2d 1476 (Fed. Cir.), *cert. denied*, 469 U.S. 924 (1984). The proper inquiry is whether the claim and specification prohibit the addition of the structure. *Stiftung v. Renishaw P.L.C.*, 945 F.2d 1173 (Fed. Cir. 1991). Here, they do not. Dr. Singh believed that the patent required the top of the interior sheet and the bottom of the exterior sheet in the pallet foot to be everywhere parallel. The court finds that the hypothetical "person of ordinary skill in the art" would not have so understood the patent.

Dr. Singh's reading is also inconsistent with the drawings, which show a slanted interior surface, and with the specification language, which speaks of a canted interior surface to aid in draining the pallet foot. Even if there were evidence that the interpretation adopted by Dr. Singh was the interpretation one of ordinary skill in the art normally would assign the phrase "planar horizontal," a patentee is free to be his own lexicographer. *Intellicall*, 952 F.2d at 1387; *Jonsson*, 903 F.2d at 819; *Z.M.I. Corp.*, 844 F.2d at 1580; *Loctite, Corp.*, 781 F.2d at 867; *Lear Siegler, Inc. v. Aeroquip Corp.*, 733 F.2d 881, 888 (Fed. Cir. 1984); *Lemelson v. United States*, 14 Cl. Ct. 318, 322 (1988). From the specification of the patent, it is clear that the patentees intended this claim to encompass a foot floor structure in which the interior and exterior surfaces were not everywhere parallel.

3. Doctrine of Equivalents.

Because the court finds that the accused pallets literally infringe claim eleven, it is unnecessary to consider the doctrine of equivalents. Assuming for the sake of argument, however, that one of ordinary skill in the art could disregard the specification and read the phrase "planar horizontal" in the restrictive sense urged by Dr. Singh, the court finds that the accused devices nonetheless infringe under the doctrine of equivalents. The same interpretation of the claims used in determining literal infringement governs a determination of infringement under the doctrine of equivalents. *Senmed, Inc. v. Richard-Allan Medical Indus.*, 888 F.2d 815, 818 (Fed. Cir. 1989). An accused device infringes under the doctrine of equivalents if it performs substantially the same function as the, patented structure, by substantially the same means, to provide the same result. *Graver Tank & Mfg. Co. v. Linde Air Prod. Co.* 339 U.S. 605, 609 (1950). The accused device must contain every limitation of the claim either literally or by substantial equivalent. *Intellicall*, 952 F.2d at 1389; *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538 (Fed. Cir. 1991); *Jurgens v. McKasy*, 927 F.2d 1552, 1560 (Fed. Cir.), *cert. denied*, 112 S. Ct. 281 (1991); *Becton*, 922 F.2d at 798. This tripartite formulation is also appropriate in evaluating whether the accused device contains the substantial equivalent of a particular element of the claim. *Malta v. Schulmerich Carillons, Inc.*, 952 F.2d 1320, 1326 (Fed. Cir. 1991), *cert. denied*, 112 S. Ct. 2942 (1992); *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1260 (Fed. Cir. 1989).

The function of the foot floor is to close up the bottom of the foot, to provide a brace between the sidewalls, and to serve as a contact point between the pallet and the surface on which it is resting. The foot floor of the accused device serves the same function. The patented device performs this function by fusing together the portion of the two sheets between the sidewall. The accused device performs this function in substantially the same way. The ribs in the foot floor

may aid in this fusion, but they in no way interfere with it.[8/] With respect to this second element of equivalents, only substantial similarity, not identity, is required. *Graver Tank*, 339 U.S. at 609. Certainly, the way in which a foot floor with ribs performs the functions enumerated above is substantially similar to the way in which the patented pallet performs those functions. The result in the patented device is a strong foot floor to support the sidewall and to provide resistance to wear. No evidence offered by defendant refuted Dr. Johnson's testimony that the foot floor was the strongest section of the pallet. The result in the accused device is the same – a strong foot floor. The foot floor of the accused device may in fact be more resistant to buckling than that of the patented pallet. Any difference, however, is only in degree and not in kind. The court finds persuasive Dr. Johnson's statement that the foot floor is the strongest portion of the pallet, and that any stress great enough to result in a buckling there would result in the failure of some other portion of the pallet first. From observing the witnesses at trial, it was evident that Mr. Stiller's and Dr. Singh's explanation of how the pallet foot floor could buckle considered only the foot in cross-section and failed to acknowledge the contribution of additional structural support from other sidewalls.

B. Sufficiency of the Specification.

In their pretrial filings, defendants contended that the patent was invalid for failure to comply with section 112.[9/] Because claim nine

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[8/]Defendants contend that the presence of ribs in the foot floor facilitate even fusing by serving as an escape reservoir for excess materials. Such an additional function would not be relevant so long as the ribs do not interfere with the function of the foot floor.

[9/]Section 112, in relevant part, states:

(continued...)

is the broadest claim and contains all of the features upon which defendants rely in asserting invalidity under section 112, resolution of this issue with respect to claim nine is considered adequate to dispose of the argument with respect to all of the claims. Defendants advanced two hypotheses to support their argument of invalidity: (1) that the claims included subject matter other than that which the applicants regarded as their invention, and (2) that the claims are invalid as indefinite, because they are broader in scope than the disclosure portion of the specification. Defendants failed to prove by clear and convincing evidence that the applicants did not regard the subject matter claimed as their invention. Defendants' second argument is both legally misplaced and factually unsubstantiated.

1. The subject matter the inventors regard as their invention.

Defendants contended in their pretrial materials that the applicants for the patent in suit regarded as their invention the combination of

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[2/](...continued)

> The specification shall contain a written description of the invention, and the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.
>
> The specification shall conclude with one or more paragraphs particularly pointing out and distinctly claiming the subject matter the applicant regards as his invention.

35 U.S.C. § 112 (1988).

fused and hollow portions in the leg. Because claim nine only requires the presence of fused portions of the leg, defendants contend that it fails to comply with the second paragraph of section 112.

The Court of Customs and Patent Appeals held that in the absence of evidence to the contrary, the subject matter set out in the claims is presumed to be that which the applicant regards as his invention. *In re Miller*, 441 F.2d 689, 692 (C.C.P.A. 1971); *In re Moore*, 439 F.2d 1232, 1235 (C.C.P.A. 1971); *see* 2 DONALD S. CHISUM, PATENTS § 8.03[4] (1993). The "regards" language may only be relied upon to reject a claim where some evidence other than the specification shows that the claim does not correspond in scope to what the applicant regards as his invention. *In re Conley*, 490 F.2d 972, 976 (C.C.P.A. 1974); 2 CHISUM, *supra*, § 8.03[4]. *Miller*, *Moore*, and *Conley*, cases in which the court considered the "regards" language, were all appeals from the denials of patent applications. No patent had yet issued. As such, those decisions did not address the statutory presumption of validity. The patent in suit, having been duly issued, is presumptively valid under section 282.[10/]

In closing argument, counsel for third-party defendant stated that the, inventors had not testified that they considered a fully fused, solid foot wall to be their invention. This argument mistakes the burden of proof. The inventors, in the declaration submitted to the patent office with their application, swore that the subject matter claimed was what they considered to be their invention. It is up to the party

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[10/]A patent shall be presumed valid. Each claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid of the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim. The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity.

35 U.S.C. § 282 (1988).

asserting invalidity to prove by clear and convincing evidence that the inventors in fact did not consider the subject matter set forth in the claim as their invention. No such proof was offered.

Moreover, there is ample evidence from which to infer that the inventors regarded the fused portions of the sidewall in the pallet leg as their invention, rather than merely the combination of fused and hollow portions. The inventors designed the pallet foot first. The procedure that the inventors followed, of designing separate molds for testing just the pallet foot, was not their usual practice. Clearly, they were concerned primarily with producing a sufficiently strong foot. It may well be that a foot sidewall with hollow portions as well as solid portions is superior to one having only solidly fused portions. An inventor, however, is not restricted to claiming only the preferred embodiment or best mode of his invention. Inventors may claim that which they regard as their invention as broadly as the prior art will allow; it is in the disclosure portion of the specification that the inventor must present the preferred embodiment. A broad claim, supported by a disclosure of the preferred and alternative embodiments, is exactly what the inventors supplied in this patent. The court concludes that the inventors intended claim nine to have the breadth exhibited by the claim language, and that they intended it to cover pallets regardless of whether the sidewalls of the feet have hollow portions.

2. Claim Definiteness.

The court looks to the claims themselves to determine the scope of the invention. *Stiftung*, 945 F.2d at 1181; *Moore*, 439 F.2d at 1235. When assessing compliance with section 112, analysis should begin with the second paragraph of that section, *Moore*, 439 F.2d at 1235, because where the first paragraph of that section uses the term "invention" it could only be referring to the claimed invention as set forth by the applicant. *Id.* The initial inquiry,

therefore, is to determine whether the claims do set forth a particular area with reasonable precision and particularity.

When the meaning of claims is in doubt, especially where there is similar prior art, the claims are, properly invalidated. *Amgen, Inc., v. Chugai Pharmaceutical Co.*, 927 F.2d 1200, 1218 (Fed. Cir.), *cert. denied*, 112 S. Ct. 169 (1991). Only reasonable precision is required, however, in delineating the claimed invention. *United States v. Telectronics Inc.*, 857 F.2d 778, 786 (Fed. Cir. 1988), cert. denied, 490 U.S. 1046 (1989). The exact level of detail required in the claims depends on the particular invention and on the prior art. *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 624 (Fed. Cir.), *cert. dismissed*, 474 U.S. 976 (1985). The definiteness of claim language is therefore analyzed not in a vacuum, but rather in light of the teachings of the prior art and the particular application disclosure, as one of ordinary skill in the art would interpret it. *Moore*, 439 F.2d at 1235. Just as claims that appear indefinite on their face may prove sufficiently definite when read in light of the prior art, claims that on their face appear definite may prove impermissibly indefinite when viewed in light of the prior art. *Id.*

In their pretrial filings, defendants asserted that the phrase "generally in fixed parallel relationship" is vague. The court does not consider the phrase to be ambiguous on its face, and defendants did not support their position at trial with clear and convincing evidence.

Words of degree often precipitate definiteness arguments that compel the court to determine whether the disclosure portion of the specification provides some standard for defining the outer boundaries of the range permitted by the phrase. *Seattle Box Co. v. Industrial Crating, & Packing Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1984) (construing the phrase "substantially equal to"). A phrase is not indefinite merely because the specification does not precisely define it. *Rosemount, Inc. v. Beckman Instruments, Inc.*, 727 F.2d 1540, 1547 (Fed. Cir. 1984) (construing the phrase "close proximity"). To

accept such a contention would be to turn the construction of a patent into a useless semantic quibble. Rather, a claim is sufficiently definite for purposes of the second paragraph of section 112 if one of ordinary skill in the art would understand what is claimed, when the claim is read in light of the specification. *Amgen*, 927 F.2d at 1217; *Telectronics*, 857 F.2d at 786; *Seattle Box*, 731 F.2d at 826. "If the claims, read in light of the specifications, reasonably apprise those skilled in the art both of the utilization and scope of the invention, and if the language is as precise as the subject matter permits, the courts can demand no more." *Telectronics*, 857 F.2d at 786; *Hybritech, Inc. v. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1384 (Fed. Cir. 1986), *cert. denied*, 480 U.S. 947 (1987). Even where some experimentation is required to fix the limits of words of degree such as "substantially equal to," the claim is not indefinite if the experimentation required is not undue. *Seattle Box*, 731 F.2d at 826; *cf. Atlas Powder Co. v. E.I. Du Pont De Nemours & Co.*, 750 F.2d 1569, 1576 (Fed. Cir. 1984) (holding the disclosure portion of a specification enabling where, it permitted practice without undue experimentation). The law does not require that the specification, let alone the claims, list every parameter of operation, so long as those of ordinary skill in the art realize that the parameter may be readily obtained. *Orthokinetics, Inc. v. Safety Travel Chairs, Inc.*, 806 F.2d 1565, 1576 (Fed. Cir. 1986).

The Federal Circuit listed other factors tending to rebut an argument of claim indefiniteness in *Rosemount*, 727 F.2d at 1547. The court noted that the party asserting invalidity had no trouble applying the terms of the claim to the prior art references. *Id.* In that case, one of the prior art references advanced by the party asserting invalidity used the same term that supposedly rendered the claim of the patent there in suit indefinite. The party asserting invalidity used the same term in describing its own products. A witness for the party asserting invalidity asserted that he had no trouble in understanding the claims of that patent. The examiner and the industry had both accepted the language of the claim. Also, the trial court had explicitly

found the claim language to be as precise as the subject matter would permit.

As in *Rosemount*, the defendants in the case at bar introduced numerous prior art references and their witnesses never seemed to have trouble determining whether a particular component of a claim of the patent in suit was disclosed in the reference. The court finds that the language used in claim nine, and in particular the phrase "generally fixed in parallel relationship," when read in light of the disclosure portion of the specification and the prior art, is sufficiently definite to apprise persons of ordinary skill in the art of both the utilization and scope of the invention and is as precise as the subject matter will permit.

In addition to these shortcomings in proof, defendants premise their claim indefiniteness argument on an incorrect legal theory. Defendants assert that because only claims four and ten contain a limitation requiring hollow portions in addition to fused portions in the pallet leg sidewalls, all the other claims are indefinite. Absence of a limitation, however, has a precise meaning, and does not render a claim indefinite. *In re Fisher*, 427 F.2d 833, 838 (C.C.P.A. 1970). An inventor may include subcombination claims that are drawn to just one aspect or combination of elements so long as that combination has a utility separate and apart from other aspects or elements of the invention as a whole. *Stiftung*, 945 F.2d at 1181. A claim need not recite every element needed for practical utilization of the claimed subject matter, and it is entirely appropriate and consistent with the second paragraph of section 112 to present claims to only one aspect of an invention. *Stiftung*, 945 F.2d at 1181. Thus, it is error to reason that an inventor may not claim one part of his invention separately from the rest. *Stiftung*, 945 F.2d at 1181. The scope of a claim omitting a limitation is still definite so long as each recited limitation is definite. *Fisher*, 427 F.2d at 838.

In its pretrial materials, defendant asserts that claims nine through twelve are invalid "when read in light of the patent and prosecution

history." Certainly it is true, as noted above, that claims are read not in a vacuum, but in light of the application disclosure as it would be interpreted by one of ordinary skill. *Moore*, 439 F.2d at 1235. Defendant, however, misapplies this rule by looking to the specification for a definition of the invention, then criticizing the claims as being vague because they do not contain limitations directed to specific elements found in the embodiments taught in the disclosure portions of the specification, such as channels in the surface of the pallet's load-bearing member. It is error, however, to look to the descriptive portion of the specification to determine what the invention is. *Stiftung*, 945 F.2d at 1181. The claims, not the disclosure, define the scope of the invention. *Id.*

Defendants' fundamental mistake lies in asserting that a claim is indefinite because it is broader than the disclosure. Broadening the scope of a claim by omitting a limitation may raise questions of sufficiency of the disclosure under the first paragraph of section 112, but does not render an otherwise definite claim indefinite. *Fisher*, 427 F.2d at 838. The breadth of the claims, though important in assessing the sufficiency of the disclosure portion of the specification, is irrelevant to definiteness. *Fisher* 427 F.2d at 838; see 2 CHISUM, *supra*, § 7.03[7][b]. Thus, defendants' argument concerning matter omitted from claim nine is irrelevant to the asserted defense of claim definiteness.

Defendants' argument concerning overbreadth of the claims is more properly treated as support for a defense under section 112 paragraph one. That provision sets three requirements for the disclosure portion of the specification: the written description requirement, the best mode requirement,[11/] and the enablement

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[11/]At trial, defendants sought to amend the pleadings to assert a best mode defense. Defendants' pretrial materials, however, did not adequately raise this issue. Also, the issue was not tried by consent. Plaintiff objected each time defendant sought to raise the

(continued...)

requirement. *Moore*, 439 F.2d at 1235. Neither the written description requirement nor the best-mode requirement are implicated by the breadth of the disclosure. The relevant inquiry, therefore, is whether the scope of enablement provided by the disclosure is commensurate with the scope of the claims. *In re Bowen*, 492 F.2d 859, 861 (C.C.P.A. 1974); *Moore*, 439 F.2d at 1236. To be sufficiently enabling, the disclosure must teach one of ordinary skill in the art how to make and use the claimed invention without undue experimentation. *Telectronics*, 857 F.2d at 785; *Hybritech*, 802 F.2d at 1384. The scope of the claims, therefore, must bear a reasonable relationship to the scope of the enablement that the specification provides to persons of ordinary skill in the art. *Bowen*, 492 F.2d at 861. The party asserting patent invalidity must present clear and

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[11/](...continued)
issue at trial. When defendants did seek to put on evidence of a best mode defense at trial, it was presented not in the context of claim indefiniteness, but rather was offered in the context of obviousness. It did not appear then, nor does it appear now, that defendant had effectively raised this issue. The court therefore denied defendants' motion to amend the pleadings.

Early in the proceedings, plaintiff seemed to contend that the claimed pallet design was nonobvious because the process of forming the pallet was difficult. This argument prompted defendants to ask leave to argue a best mode defense. Two errors are implicit in defendant's request. First, assuming plaintiffs evidence was relevant, it would only raise a question as to enablement, not a best mode defense. More importantly, the claim is not directed to a process for forming a pallet, and the disclosure does not teach a process for forming a pallet. The court finds the claimed invention to be a particular patent structure, not a method for thermoforming a patent containing that structure. Furthermore, the court finds that any problems encountered in attempting to form the patented structure are such as one of ordinary skill in the art could overcome without undue experimentation.

convincing evidence as to why the specification does not reasonably permit one skilled in the art to practice as broadly as the invention is claimed. *Telectronics*, 857 F.2d at 785 (describing the burden as "persuasive" evidence).

The particular embodiments of the pallet illustrated in the disclosures contain features not found in claim nine. This does not mean that the disclosure is not enabling. One apparatus may embody several inventions. *Stiftung*, 945 F.2d at 1181. The law does not require the applicant to describe every conceivable embodiment of an invention. *Telectronics*, 857 F.2d at 786 (citing *S.R.I. Int'l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985)). Disclosure of one embodiment, along with the general manner of obtaining any information necessary to make and use other embodiments without undue experimentation, is sufficient. *Id.* at 786. The patent need not teach, and preferably omits, that which is well known in the art. *Hybritech*, 802 F.2d at 1384. Thus, in the context of an application prosecution it has been held error to reject the application merely because it did not teach a specific embodiment within the scope of an appealed claim. *In re Vickers*, 141 F.2d 522, 526 (C.C.P.A. 1944). In arts involving predictable factors, such as patents in the mechanical or electrical arts, a single embodiment provides broad enablement because once imagined, other embodiments may be fashioned without undue experimentation. *Fisher*, 427 F.2d at 839; *see Vickers*, 141 F.2d at 527 (stating the rule for the mechanical arts); *see also* U.S. DEPT. OF COMM., PAT. & TRADEMARK OFF., MANUAL OF PATENT EXAMINING PROCEDURE § 706.03(z) (rev. 5th ed. 1989) (stating that in mechanical cases broad claims may be supported by disclosure of a single species).[12/] On the other hand, in arts involving unpredictable factors, such as

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[12/]The Court of Customs and Patent Appeals stated that it would be better to distinguish between cases involving predictable and unpredictable factors, rather than merely to distinguish between the mechanical and the chemical arts. *Bowen*, 492 F.2d at 862; *In re Cook*, 439 F.2d 730, 735 (C.C.P.A. 1971).

chemistry and physiology, the requisite scope of enablement varies inversely with the degree of unpredictability of the factors involved. *Fisher*, 427 F.2d at 839; *see also* U.S. DEPT. OF COMM., PAT. & TRADEMARK OFF., *supra*, § 706.03(z). Thus, chemical reactions, which involve a high degree of unpredictability, require a more extensive enabling disclosure. *Telectronics*, 857 F.2d at 786. The specification, therefore, is deficient only if it does not enable as to some embodiments of the claim. *Fisher*, 427 F.2d at 839.

The design of pallets is an art involving largely predictable factors. The disclosure portion of the patent in suit amply illustrates why one embodiment may be adequate to enable a broad claim in the mechanical arts. Certainly, there are many conceivable embodiments of claim nine that the disclosure does not teach – pallets having decks without ribs, pallets without hollow portions in the leg sidewalls, etc. Nevertheless, once the inventors have shown a person of ordinary skill in the art one particular pallet design having fused portions in the leg sidewall, other designs having fused portions in the leg sidewalls may be fashioned without undue experimentation. Thus, a fairly narrow disclosure may enable a comparatively broad claim.

The court concludes that the claim language is sufficiently definite reasonably to apprise those of ordinary skill in the art of both the scope and utilization of the claims. Moreover, the court finds that the language is as precise as the subject matter reasonably permits. The omission of limitations from the claim does not implicate concerns of claim definiteness, and because the art involves largely predictable factors, disclosure of a single species is enabling for a broad claim.

C. Nonobviousness.

Defendants admit that claim nine[13/] of the patent reads on the accused devices, but assert as an affirmative defense that the claim is invalid as obvious under section 103.[14/] All patents are presumed to be valid under section 282, and each claim is presumed valid individually. *Vandenberg v. Dairy Equip. Co., Div. of DEC*, 740 F.2d 1560, 1568 (Fed. Cir. 1984). Defendants bear the burden of proving invalidity by clear and convincing evidence. *Richdel, Inc. v. Sunspool Corp.*, 714 F.2d 1573, 1579 (Fed. Cir. 1983); *Lear Siegler*, 733 F.2d at 885. This burden of persuasion remains on the defendant throughout the trial, *American Hoist & Derrick Co. v. Sowa & Sons, Inc.*, 725 F.2d 1350, 1360 (Fed. Cir.), *cert. denied*, 469 U.S. 821 (1984), and is all the more onerous where the patent examiner has considered all the pertinent prior art, *Kloster Speedsteel A.B. v. Crucible, Inc.*, 793 F.2d 1565, 1571 (Fed. Cir. 1986), *cert. denied*, 479 U.S. 1034 (1987). Furthermore, the party challenging the

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[13/] Defendants admit that claim ten reads on the accused devices, and the court has found that claim eleven covers the accused devices as well. Inasmuch as both claims ten and eleven depend from claim nine, a determination of nonobviousness with respect to claim nine is considered to apply also to claims ten and eleven. On the facts of this case, the set of limitations constituting claim nine are not made more obvious by the addition of further limitations.

[14/] A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

35 U.S.C. § 103.

patent's validity bears the burden of proving that the examiner failed to consider a pertinent prior art reference. *Richdel*, 714 F.2d at 1579.

A patent is invalid for obviousness under section 103 "if the differences between the subject matter . . . patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains." Nonobviousness is a question of law. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561 (Fed. Cir.), *cert. denied*, 481 U.S. 1052 (1987). Analysis of this legal question requires three factual inquiries: the scope and content of the prior art, the differences between the patented item and the prior art, and the level of ordinary skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966); *Bausch & Lomb, Inc. v. Barnes-Hind/ Hydrocurve, Inc.*, 796 F.2d 443, 447 (Fed. Cir. 1986), *cert. denied*, 484 U.S. 823 (1987). The obviousness inquiry should be addressed to the invention as a whole, not just to the differences between the claimed invention and the prior art. *Hybritech*, 802 F.2d at 1383 n.6.

1. Scope and Content of the Prior Art.

The art relevant to a consideration of obviousness is the analogous art. *Wang Lab., Inc. v. Toshiba Corp.*, 993 F.2d 858, 864 (Fed. Cir. 1993). Non-analogous art is too remote to constitute prior art. *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992). Two criteria determine whether a particular reference is analogous art. First, if the reference is within the inventor's field of endeavor, then it is deemed analogous. *Wang*, 993 F.2d at 864; Clay, 966 F.2d at 659; *Bausch & Lomb, Inc.*, 796 F.2d at 449. Second, if the reference is reasonably pertinent to the particular problem with which the inventor was involved, it is prior art. *Wang*, 993 F.2d at 864; *Clay*, 966 F.2d at 659; *Bausch & Lomb, Inc.*, 796 F.2d at 449; *see also*, 2 CHISUM, *supra*, § 5.01. As the Federal Circuit recently held in *Clay*:

> A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor's endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem. Thus, the purposes of both the invention and the prior art are important in determining whether the reference is reasonably pertinent to the problem the invention attempts to solve. If a reference disclosure has the same purpose as the claimed invention, the reference relates to the same problem, and that fact supports use of that reference in an obviousness rejection. An inventor may well have been motivated to consider the reference when making his invention. If it is directed to a different purpose, the inventor would accordingly have had less motivation or occasion to consider it.

966 F.2d at 659.

Thus, to determine whether a particular reference is within the prior art, the court must first determine the inventor's goals and objectives. The court finds that the inventor's goal was to design a stronger plastic pallet than previously had been known. This finding is based on all the evidence heard, but with particular reference to the following facts. Mr. Dresen, one of the named inventors, testified that although single sheet plastic pallets worked well in certain applications, the inventors "saw the potential of developing more structurally integrated pallets that would support products that would be heavier." This perception of a need arose from contact with members of the industry. Mr. Dresen testified that Penda "had received, through our sales people, as well myself, a lot of requests for heavier pallets than we were able to make with the single-sheet methodology that we were using." The inventors sought to meet these needs with a heavy duty pallet, of strength comparable to wood pallets, that would still offer the well known advantages of plastic over wood. Mr. Dresen testified that in their original meeting he and the other inventors concluded that "there was a real need in the

market for a heavy-duty plastic pallet that could potentially compete with wooden pallets." In addition to being strong enough to support the pallet, the leg had to withstand lateral impacts resulting from misaligned forklifts or jacks. Similarly, Harlon Breezer testified that the inventor's main goal was to come up with a pallet that would be better than existing pallets by virtue of being stronger. Mr. Price also testified that the inventors came to recognize a commercial need for a stronger plastic pallet.

In particular, the inventors sought to develop a stronger pallet foot as part of a twin-sheet thermoform pallet. The ability of a pallet to bear up under a load is its compressive strength. In distinction, the tendency of a pallet to resist bending and flexing is its rigidity. That the inventors were particularly concerned with compressive strength is indicated by the steps undertaken in developing this pallet. The inventors designed the foot first, and tested it separately to determine whether it was sufficiently strong before proceeding to build a mold for the full pallet. The inventors testified, without contradiction, that it was unusual to test part of a design separately from the whole. If compressive strength had not been a particular concern, the inventors would not have spent so much time on the foot separately. Claim nine is the broadest because it teaches the most essential element of plaintiff's patent – a stronger pallet foot integrally formed from a load bearing member consisting of two parallel surfaces.

Moreover, this finding as to the inventors' objectives is supported by the language of the specification. "The present invention relates to pallets in general and, in particular, to pallets which can be constructed of thermoplastic materials formed by thermoforming methods." (the '306 patent, ln 1.) All the claims' preambles identify the invention as a "pallet." The specification contains the following description of the prior art:

> The prior art is generally cognizant of the general concept and desirability of manufacturing pallets from moldable materials such as thermoplastic resins. Among

> the kinds of prior art pallets which were known is one general variety constructed of a single planar member of plastic material which serves as a load-bearing member, with feet formed to elevate the single layer of material. Examples of pallets of this general character can be found in U.S. Pat. Nos. 3,140,672, 3,640,299, 3,680,495, and 3,720,176. Of these patents, U.S. Pat. No. 3,140,672 discloses a molded pallet which includes a planar deck 11 having a plurality of ribs 15 provided in it to stiffen and reinforce it. Another method utilized in the prior art to construct pallets of moldable material has been to construct two substantially planar load-bearing members which are positioned in parallel to each other and spaced by reinforcing or stiffening members spaced so as to allow the projection of the arms of a forklift therethrough. Examples of pallets formed of this general character can be seen in U.S. Pat. Nos. 3,404,642, 3,680,496, 3,691,964, 3,699,902, and 3,757,704. Other examples of patents disclosing pallet configurations which can be constructed of molded materials can be seen in U.S. Pat. Nos. 3,561,375, 3,697,029, 3,717,922, and 3,719,157.

Defendants never challenged these statements of the inventors' goals. In fact, the inventors' testimony was consistent with defendants' statements in their Memorandum of Contentions of Fact and Law. Nevertheless, defendants urge a substantially broader definition of the prior art, as encompassing all of thermoforming. In reliance upon this position defendants proposed many findings regarding developments in the thermoforming industry generally. The court does not consider this to be the inventors' field of endeavor, however, nor does the court consider every thermoformed article to be reasonably pertinent to the inventors' problem of increasing the pallet's compressive strength. Prior art either must fall within the inventors' field of endeavor or be reasonably pertinent to the particular problem the inventor faced.

The court finds that the inventors' specific field of endeavor was the creation of a stronger thermoformed plastic pallet.[15/] All thermoformed plastic pallets are, therefore, prior art. Other specific references, such as other types of pallets or other thermoformed parts, may be prior art depending upon the specific facts of the reference and whether it is reasonably pertinent to the problem of making a stronger thermoformed pallet.

Defendants have cited numerous prior art references. The list below, although not including every reference offered at trial, catalogs those prior art references that are most pertinent. Omission of any reference indicates not that the court failed to consider the reference, but merely that the court considered it less pertinent than those included.

a. The Bell Patent.

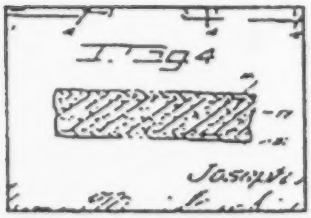

Figure 3. Laminated Sheet.

This reference discloses a plastic pallet made of one or more sheets of material. Bell, U.S. Letters Patent No. 3,640,229 (1972). The parties agree that the patentees cited this

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[15/]In reaching this finding, the court does not consider helpful the testimony on this point by Mr. McConnell, plaintiff's expert. Mr. McConnell's testimony on the matter was sketchy, and he seemed somewhat confused by counsels' use of terminology pregnant with legal meanings.

reference to the examiner.[16/] This is a nestable pallet with ribs in the deck and in the legs to impart flex and compressive strength. Bell indicates that the load bearing capacity of the pallet is determined by the thickness of the material used. In an alternative embodiment, Bell suggests that a lighter pallet may be constructed by laminating a plastic exterior to a foam core. Figure 3 shows a cross-section of such a laminated sheet. The evidence tended to establish that the increase in strength-to-weight ratio that the Bell patent professes to provide is explicable in terms of the same underlying phenomena as that which Dr. Johnson used in explaining the strength of the invention's deck. The court finds that this reference is pertinent prior art, but notes that the examiner duly considered it.

b. The Brown and Howell Patents.

These patents teach a twin-sheet thermoforming machine of the type plaintiff used in making their pallets. One possible application suggested in Howell is plastic pallets. Defendants contend that this machine served as a catalyst, making such pallets economically feasible. The reference, however, contains no teachings as to how such pallets can be made stronger. These patents teach specifically the technology required to make the forming machines themselves. They do not contain any instruction as to what techniques should be employed in designing parts for use on the machine. Although these references suggest that the machine disclosed can be used to make pallets, these references do not teach how to do so. Nothing in this reference would teach one of ordinary skill in the art in 1979 how to overcome the structural problems posed by plastic pallets. The court finds that this reference has a different purpose than the claimed

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[16/]The patent itself refers, apparently erroneously, to U.S. Letters Patent No. 3,640,299. Plaintiff and defendant agreed before trial that this number was a typographical mistake and that the Bell patent, U.S. Letters Patent No. 3,640,229, was the one actually cited to the examiner.

subject matter, is directed toward a different problem, is not within the inventors' field of endeavor, and is not reasonably pertinent to the problem they confronted.

c. The Toboggan and the Buening Patent.

Defendants offered a plastic toboggan as prior art. The toboggan is fairly conventional in shape and made of two sheets of material. The front consists of a large, enclosed, hollow chamber. The floor contains a number of hat sections extending along the major axis of the toboggan from the front hollow chamber to the rear rail. The sides are rails to which the riders may cling. The normal and intended use of the item was as a toboggan.

Mr. Woodrich, who developed the toboggan, testified that it was intended that the sidewalls be fused. He did not offer any explanation as to why this was desired. As Mr. McConnell pointed out, the purpose of the railing in the toboggan is not to carry heavy loads. Nothing indicates that one of ordinary skill in the art, endeavoring to increase the compressive strength of a pallet, would look to the handrails of a toboggan for guidance.

Buening, shown in Figure 4, teaches a plastic toboggan similar to the one entered in evidence as a physical exhibit. Buening, U.S. Letters Patent No. 3,666,282 (1972). The toboggan has a deck structure with ribs on opposite sheets running perpendicular to one another and fused together at the points of intersection. The toboggan has a raised periphery to serve as a rail, but the only fusing shown in this rail is in the horizontal plane. As with the actual toboggan put into evidence, there is no indication that one of ordinary skill in the art would consult this reference in searching for a solution to the problem of increasing the pallet's compressive strength. The court finds that with respect to claim nine, which addresses primarily the pallet legs, neither the physical toboggan nor the toboggan patent were analogous prior art.

d. The Hammond Patent.

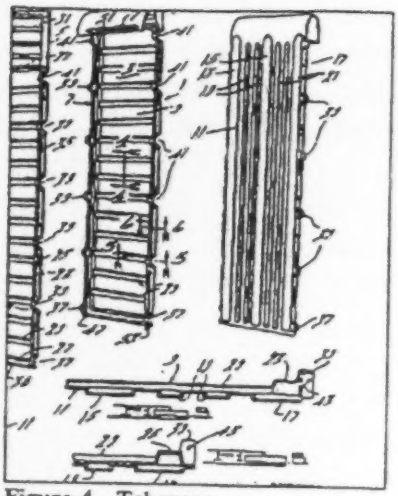

Figure 4. Toboggan.

Hammond teaches the use of plastic columns to add compressive strength to a pallet. Hammond, U.S. Letters Patent No. 3,561,375 (1971). The examiner did consider Hammond, inasmuch as it is one of the references cited in the specification of the patent at issue. The columns inserted into the pallet by Hammond may consist of paired frustro-conical sections joined so that the center of the column is more narrow than the ends. The court finds that Hammond is pertinent prior art to the problem of imparting compressive strength to the pallet.

e. The McIlwraith Patent.

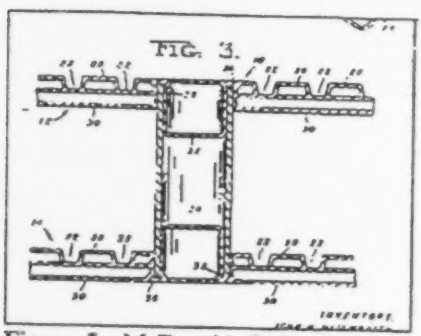

Figure 5. McIlwraith Pallet.

McIlwraith identifies his field of art as plastic pallets, and in particular, "pallets formed to individual, molded, thermoplastic top and bottom deck members." McIlwraith, U.S. Letters Patent No. 3,610,173 (1969). The McIlwraith pallet has an upper deck and a lower deck. Each of the two decks has criss-crossed channels "welded" together where they cross.

Although the deck structure is susceptible to thermoforming, evidence adduced at trial established, and the court finds, that one of ordinary skill in the art at the date of invention would have understood McIlwraith to teach a deck manufactured by blow molding. The two decks are joined by interlocking columns that, in the preferred embodiment, are removable. Figure 5 illustrates this construction. McIlwraith emphasizes that his pallet is reversible. McIlwraith teaches that the columns joining the two decks may be cut from a tube of metal, or may be made from high-strength plastic. To increase compressive strength, McIlwraith suggests using thicker walls. For shipping and storage, McIlwraith suggests that the pallet be disassembled.

Mr. Larry Stiller testified that he was generally familiar with the McIlwraith type construction in twin sheet thermoform products. He described the deck as two series of hat sections, oriented at right angles to one another. He believed the top and bottom surfaces of each deck to be fused together, because the cross-sectional drawing only showed a single sheet of plastic where the two met. Mr. Stiller did not read the patent as suggesting blow molding. The court disagrees with his interpretation. Mr. Stiller conceded that McIlwraith did not teach a pallet with legs formed of the same sheet of material as the deck.

Mr. McConnell, plaintiff's expert, also testified about this pallet. He described the structure as two blow-molded decks separated by columnar spacers. He recognized that the deck taught the use of ribs in the upper and lower surface running criss-cross to each other so as to provide good strength. He saw nothing in McIlwraith that would suggest to him that he could make the pallet and the legs out of one sheet of material. According to Mr. McConnell, McIlwraith requires separate forming operations for the deck and the legs, if the legs are made out of plastic at all. One endeavoring to build a heavy-duty pallet of unitary construction who looked to McIlwraith would learn only from the criss-cross pattern in the deck, and probably would have known of that technique already.

The court finds that McIlwraith is pertinent prior art, inasmuch as one of ordinary skill at the time of invention, when working on the problem of inadequate compressive strength, would tend to look to McIlwraith when seeking a solution. Moreover, this reference was considered by the examiner.

f. The Rowlands Patent.

This reference, which was before the examiner, teaches a blow-molded pallet. Rowlands, U.S. Letters Patent No. 3,467,032 (1969). The skin forms a top and bottom surface. The molding process deforms pillars in the top and bottom. These pillars are in the shape of frustro-conical sections. These pillars may then be welded together along their tops to provide strength and rigidity. Holes are then cut in the side of the pallet to provide an aperture for fork-lift tines. Rowlands is pertinent prior art for what it teaches about adding compressive strength through columnar inserts, but like McIlwraith, it teaches nothing about generating compressive strength through fusing side walls.

g. The Szatkowski Patent.

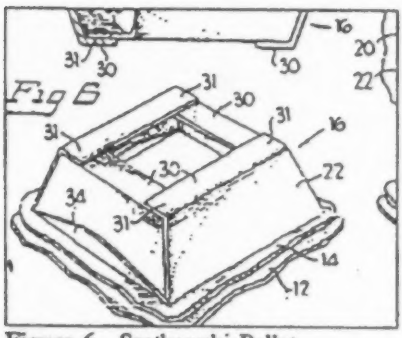

Figure 6. Szatkowski Pallet.

Szatkowski teaches a layered pallet made of cardboard, pressed board, or the like. Szatkowski, U.S. Letters Patent No. 4,015,544 (1977). The walls for the legs are folded down out of the boards, then intermittently glued together. The pallet, which is nestable, may also have other reinforcements in the legs. After being folded down, the leg portions are fastened together by

glue or some other suitable means to form a pallet foot, as shown in Figure 6. The examiner considered this reference when he determined that the inventors' teaching of fusing the pallet-foot sidewalls together was nonobvious. The court finds that Szatkowski is pertinent prior art.

h. The Vissers Patent.

This pallet has an upper and a lower sheet. Legs depend from each sheet, and the legs of the top sheet fit into those of the bottom sheet. Vissers, U.S. Letters Patent No. 3,267,883 (1965). Mr. Stiller read the phrase "locked against displacement" to mean that the two sheets are fused. Nothing in the patent, however, suggests that these plates are joined at the feet. The only place the patent teaches uniting the plates is at the circumferential rim. Mr. McConnell testified that the specification suggested to him that the sheets were made of a material similar to fiberglass, then snapped together. To perform such a process, the upper sheet would be formed on a female mold and the lower sheet on a male mold, so that the surface of each sheet which was to come in contact with the other sheet would be in contact with the mold and thus more precisely defined. On the whole, the court finds that the Vissers patent is less pertinent a prior art reference than Szatkowski.

i. The Woolworth Patent.

Woolworth teaches a pallet leg made of high-impact plastic. Woolworth, U.S. Letters Patent No. 3,438,342 (1969). Figure 7 is an illustration of this pallet foot, taken from the Woolworth patent. The pallet leg is made of two concentrically situated cylinders connected together by a webbing structure, consisting essentially of radially disposed panels. The bottom of the leg is sealed by another plastic part, labeled in Figure 7. The top of the leg is designed to be bolted to the pallet.

In trying to establish Woolworth as prior art, defendants elicited testimony from Mr. Stiller as to whether he could design a mold to produce this part by thermoforming. Presumably, defendants recognized that in developing a thermoformed pallet one of ordinary skill in the art would most naturally turn to references that could themselves be thermoformed.

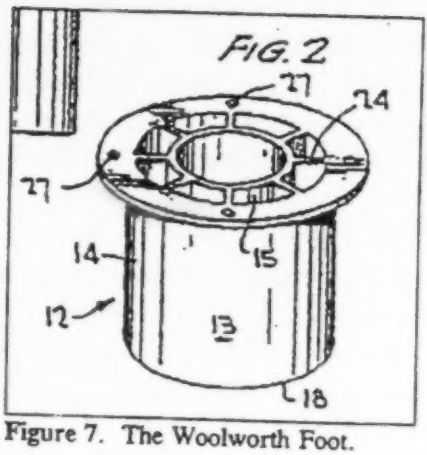

Figure 7. The Woolworth Foot.

Mr. Stiller's testimony was more revealing on this subject than defendants might have wished. His point of departure was a confident assertion that he could in fact design a mold to produce such a part by twin sheet thermoforming. As the court observed his verbal and demonstrative description of how he would do so, however, it grew increasingly apparent that the design he was describing simply would not work. Although difficult to articulate, the deficiencies in his design were absolutely clear to the court when hearing his testimony *ore tenus* and observing his models, his attempts to illustrate his approach, his gestures, and his ultimate frustration. Nor was this an arcane matter, beyond the ken of the lay observer. The court can best relate the deficiencies inherent in Mr. Stiller's proposal by explaining that to implement his design, the upper mold surface would have to physically pass through the lower mold surface. It requires no specialized knowledge to realize that two objects cannot occupy the same space at the same time. Mr. Stiller tenaciously refused to concede the shortcomings of his proposed design, but, under the pressures of cross-examination, did ultimately abandon this first attempt. The court appreciates that the design process may be iterative in nature. Nevertheless, the inescapable conclusion for anyone observing Mr. Stiller's testimony was that the conversion of

the Woolworth foot from blow molding to twin-sheet molding was far less obvious than he originally thought.

2. Differences Between the Patented Invention and the Prior Art.

Keeping in mind the problem that the inventors confronted – that of enhancing the compressive load-bearing features of plastic pallets -- the court now considers the differences between the way in which the inventors accomplished this result and the way the prior art attempted to solve this problem. The prior art must be considered not only for what it may teach toward the patent, but also for the manner in which it may lead one of ordinary skill in the art away from the invention.

Defendants contend that Bell teaches connecting two sheets of plastic in the leg to produce a stronger result. Bell, however, does not teach vertical fusing to add compressive strength. The two laminate sheets in Bell are fused not to each other, but to a central core of foam. The structure of Bell is more similar to the use of inserts in the foot to impart compressive strength. Bell does not teach the use of different designs on the top and bottom. That Bell may be explained by the same principles as explain the patented pallet is irrelevant. *In re Van Wanderham*, 378 F.2d 981, 988 (C.C.P.A. 1967) (observing the difficulties attendant upon not considering the subject matter as a whole, but instead focusing on the scientific principles involved.); *see also Lindemann Maschinenfabrik G.M.B.H. v. American Hoist & Derrick Co.*, 730 F.2d 1452, 1462 (Fed. Cir. 1984) (noting that most patentable inventions employ known principles). Dr. Johnson, in analyzing the structure of the patented pallet, explained that tying the upper and lower sheets of material together in the deck provides a shear transfer mechanism, an effect he compared to that produced in an I-beam. The concept of the strength inherent in an I-beam is, however, ubiquitous. The proper inquiry under Section 103 is addressed to whether the particular application

of this principal taught by the inventors, which is to say the claimed subject matter as a whole, would have been obvious to one of ordinary skill in the art at the time the invention was made. Bell does not teach a fusing of the layers. If the patented pallet is nonobvious over Szatkowski, which teaches gluing parts of the leg together, it is nonobvious over Bell.

One method the prior art teaches for achieving greater compressive strength is the insertion of plastic columnar struts between two decks of a reversible pallet. *E.g.*, Hammond, U.S. Letters Patent No. 6,561,375 (1971); Rowlands, U.S. Letters Patent No. 3,467,032 (1969). The struts in Hammond are not integrally formed with the decks, but are the product of a separate forming operation. Hammond teaches the use of struts comprising paired frustro-conical sections for compressive strength; this use of paired frustro-conical sections is very different from plaintiff's techniques of fusing portions of the sidewalls together in the pallet legs. Hammond is only applicable for a two-deck pallet, which would not have satisfied the inventors' goal of nestability.

Similarly, Rowlands teaches the use of columns between the decks to provide support. Unlike Hammond, these columns are formed from pockets deformed in each sheet of the two deck pallet. The columns are therefore an integral part of the structure, and in this regard are similar to the patent in suit. This solution is very different, however, from the one taught by the inventors. The columns in Rowlands are of a single thickness throughout. It would not have been obvious to one of ordinary skill in the art upon looking at Rowlands or Hammond that significant increases in compressive strength could be achieved by fusing together portions of the sidewalls in the legs.

Another technique for gaining compressive strength is the use of inserts. Rowlands, for example, teaches that the pockets in either surface which compose the spacer columns may be formed from the

insertion of a frustro-conical insert. McIlwraith teaches making the columnar supports of a different material, such as steel tubing.

The most common technique found in the prior art for adding compressive strength was to use a thicker sidewall. It was from exactly this confine of thought that the inventors escaped. By fusing the two vertical sidewalls, the inventors achieved the effect of a thicker sidewall without the attendant disadvantages: greater weight, more expense, and formability problems.

No witness testified as to Szatkowski at trial. Plaintiff contends that Szatkowski, which the examiner considered, is a more pertinent reference than Vissers, which defendants advance. The fusing of the sidewalls as shown in the patent was considered by the examiner to be a non-obvious improvement over the adhesion taught by Szatkowski. Vissers teaches locking the legs together against displacement. The two plates are "united," however, only at the circumferential rim. Plaintiff's argument in closing, that this reference is less apt than Szatkowski, is well taken. To strengthen the legs, Vissers teaches the use of material of greater thickness. This teaching in no way suggests the solution that the patentees hit upon. The court finds that one of ordinary skill in the art in 1980 would have interpreted the phrase "locked against displacement" to call for some kind of mechanical fit to transfer shear from the upper to the lower sheet. Mr. Stiller's interpretation, under which Vissers would read on the patent claims, results only from impermissibly reading the teachings of the patent back into the prior art.

3. The Level of Ordinary Skill in the Art.

The necessary inquiry when determining obviousness is whether the invention would have been obvious to "one of ordinary skill in the art," not whether it would have been obvious to the court, to a layman, to those skilled in remote arts, or to geniuses in the art at hand. *Environmental Designs, Ltd. v. Union Oil Co.*, 713 F.2d 693,

697 (Fed. Cir. 1983), *cert. denied*, 464 U.S. 1043 (1984). Six factors have been held relevant in determining the level of ordinary skill in the art: (1) the educational level of the inventor, (2) the type of problems encountered in the art, (3) the prior art solutions to those problems, (4) the rapidity with which innovations are made, (5) the sophistication of the technology, and (6) the educational level of active workers in the field. *Bausch & Lomb, Inc.*, 796 F.2d at 449; *Environmental Designs*, 713 F.2d at 696. Not every case will contain all factors, and in a particular case one or more factors may predominate. *Environmental Designs*, 713 F.2d at 697.

a Educational Level of the Inventors.

The court considers this criterion as a direction to consider all aspects of the inventors' education, including informal education and years of practical experience. In 1980, Mr. Dresen had eleven years experience with thermoforming and was involved in the p oduction of single-sheet pallets at both Penda and Glasfab, its predecessor. He worked for Glasfab starting in 1969, then went to work for Penda when they purchased Glasfab. Mr. Dresen earned a B.S. degree in industrial technology and industrial education. Mr. Breezer began working while in high school and has no formal education beyond high school but has sixteen years thermoforming experience. Mr. Breezer worked for Portage Plastics for eleven years, then worked at a tooling house. He joined Penda in 1978. While he was at Portage, the company produced a single-sheet pallet. Mr. Price, in addition to earning a two-year associate degree at a junior college, had fourteen years thermoforming experience and additional experience in the tool and die trade. He worked first with metal-stamping tools, then started a pattern and model shop called Arborcraft. After working there eleven years, he consulted for three years before joining Penda. He had previously designed single and twin-sheet products, including a single-sheet pallet. The inventor's educational level, however, is not conclusive of the level of ordinary skill in the art; it is but one factor. *Bausch & Lomb, Inc.*, 796 F.2d at 449; *Orthopedic Equipment Co.*

v. All Orthopedic Appliances, Inc., 707 F.2d 1376, 1382 (Fed. Cir. 1983).

b. The Educational Level of Active Workers in the Field.

The court considers the term "education" in the context of this criterion to refer not only to formal education, but also to informal education and practical experience. Mr. Waun, who designed the accused devices, studied mathematics and engineering at four colleges without ever receiving a degree. He went to college about a year before entering the thermoforming business. He completed a five-year tool-and-die apprenticeship during which he served under Mr. Price. He later worked for Mr. Price's company, Arborcraft, for three years, during which time he was a foreman for Mr. Price. He worked about eight years as head-designer for Shuert Industries, a toolmaker that later became a thermoformer. In 1980, Mr. Waun had approximately ten years experience in thermoforming and additional experience in the tool-and-die trade. Mr. Constantino, the president of Cadillac, got his start in the thermoforming business straight out of high school. Larry Stiller, defendants' expert, entered the thermoforming industry directly from high school. Mr. Stiller further testified that others he knew in the business had backgrounds similar to his own. Mr. McConnell, an expert for plaintiff, had about two years of college in aeronautical engineering, but never completed his degree after serving in World War II. The other experts who testified, Dr. Johnson and Dr. Singh, both have academic careers. The court finds that neither is an active worker in the field in the sense that his background might be useful in assessing the level of ordinary skill in the art.

c. The Types of Problems Encountered in the Art.

The inventors' precursors in the art of making plastic pallets found it difficult to generate sufficient compressive strength. The

plastic pallets that were generally commercially available had problems with sagging and hinging. Additionally, twin-sheet thermoformers encountered problems in making the molds fit together properly to get a good fusing. Makers of pallets in general faced problems in producing durable, reusable pallets cheaply.

Certain articles that defendant offered as prior art[17/] are instructive as to the types of problems encountered in the art. As early as 1970, industry watchers were suggesting thermoforming plastic pallets. Michael J. Steed, *Why Not Thermoform Plastic Pallets?*, PLASTICS TECH. Feb. 1970, at 43. Even at that early date, some recognized that the principal limitation on plastic pallets lay in developing the proper leg design. Steed indicated that research into different leg designs was already underway.

A later article recounts some of the problems encountered with early plastic pallets. *See* Ronald R. MacBride, *Plastic Pallets are Coming on a Lot Stronger Now*, MODERN PLASTICS, Oct. 1972, at 60. Macbride recounted how early plastic pallets had been rushed to the market too quickly, and had to be withdrawn because of unanticipated problems. At that point, plastic pallets still could not compete with wood either in terms of rigidity or compressive strength. Returnables, even in 1972, cost over $20 per unit. A later article in a different journal confirms that plastic pallets were having trouble making inroads, and that twin-sheet pallets then in use were not exceptionally strong. *Some Straight Talk About Plastic Pallets*, AUTOMATION, Nov. 1974, at 70.

Two years later, MacBride followed up on his 1972 article. *See* Ronald R. MacBride, *Despite the Odds, Plastic Pallets are Set To Grow*, MOD. PLASTICS, Nov. 1974, at 58. In 1974, plastic pallet

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[17/]When defendant introduced these articles into evidence, defendant's expert Dr. Singh testified that each was from a reputable journal regularly relied upon by those in the field of materials handling.

designers were still looking for ways to make their products stronger. At least three dozen companies had made major investments in developing a better plastic pallet.

d. The Prior Art Solutions to Those Problems.

Prior art plastic pallets included single-sheet pallets with channels and ribs to add strength, both in the deck and in the legs. Although offering the advantages associated with plastic pallets, these single-sheet pallets were generally too flimsy for heavy use. Prior art twin-sheet plastic pallets contained alternating fused and hollow portions in the deck and patterns of ribs in the upper and lower surfaces intersecting at right angles, but not fused or alternating fused and hollow portions in the leg walls. Others offered injection-molded legs bolted to thermoformed decks. The use of inserts in the legs was a common means of increasing the compressive strength. Some prior art references also suggest increasing the width of the leg wall.

e. The Rapidity with Which Innovations Are Made.

The parties stipulated that "innovation did not occur rapidly in the industry." Mr. Stiller testified at trial that about the time the inventors were designing their pallet, those in the art were "getting creative" as the effects of the oil embargo eased. That observation, however, does not call into question the stipulation. The problem the inventors were working on – designing a stronger foot had been recognized at least since 1970. Steed, *supra*, at 43.

f. The Sophistication of the Technology.

The basic technology required to practice this art had been available for almost twenty years. All the equipment needed to practice this technology was commercially available. The molds for

making products probably could have been fashioned by a number of toolmakers. This fact, considered in conjunction with the educational level of the inventors and other workers in the field, suggests that the relevant technology was at most modestly sophisticated or relatively unsophisticated.

g. Finding as to Level of Ordinary Skill.

One of ordinary skill in the art of designing and thermoforming plastic parts such as pallets would have had little if any formal education beyond high school. One of ordinary skill would have learned the trade principally from an apprenticeship or similar program of informal study. Although one of ordinary skill would have been familiar with the general principles and basic concepts of thermoforming, including the use of hat sections and furrows in the plastic to increase rigidity and fusing two sheets together in a thermoformed part, the court finds that this general familiarity does not mean that one of ordinary skill in the art would have chosen the proper design to integrate these principles successfully to solve a given problem such as that which confronted the inventors. On the whole, the level of ordinary skill in the art is relatively low.

4. Objective Indicia of Nonobviousness.

Secondary considerations such as commercial success and long-felt but unsolved need may also aid in the nonobviousness inquiry. *Graham*, 383 U.S. at 17. Where available, such objective evidence of nonobviousness may be the most probative evidence presented, *Bausch & Lomb, Inc.*, 796 F.2d at 447, and must be considered. *Newell Cos. v. Kenny Mfg.*, 864 F.2d 757, 768 (Fed. Cir. 1988), *cert. denied*, 493 U.S. 814 (1989).

a. Commercial Success.

Defendants contend that plaintiff's failure to put on explicit proof of commercial success is relevant in a determination of obviousness. As a preliminary matter, the court notes that plaintiff has no obligation to offer such proof. The patent is presumed valid under section 282. Defendants, not plaintiff, bear the burden of proof with respect to the question of validity. Furthermore, even if defendants had proven the device a commercial failure, that would not be sufficient to show that it was obvious and unpatentable.

Commercial success suggests patentability because (1) the economic return generated by an item is some indication of its worth to society, (2) others seem to be acknowledging the invention's validity because they are willing to pay for the invention rather than defend a suit for patent infringement, and (3) if others had seen how to avail themselves of this commercial opportunity, they would have done so. None of these factors, however, warrants application of the rule's converse. In other words, lack of commercial success does not in and of itself tend to show obviousness.

An invention need not be better, less expensive, or more commercially appealing to be nonobvious. *See Demaco Corp. v. F. Von Langsdorff Licensing, Ltd.*, 851 F.2d 1387, 1390 (Fed. Cir.), *cert. denied*, 488 U.S. 956 (1988); HARMON, *supra* note 6, at 114. In any event, the record is not devoid of indicia of commercial success. This procurement itself was a substantial commercial coup. Moreover, plaintiff previously had sold as many as 66,000 pallets in one order, to a customer who purchased a total of 132,000 pallets in a year.

Of course, commercial success is only probative of nonobviousness to the extent that a nexus exists between it and the patented aspects of the product sold. *Cable Elec. Prod. Inc. v. Genmark, Inc.* 770 F.2d 1015, 1026 (Fed. Cir. 1985). There is, however, ample evidence of the merit of the Penda pallet. The Postal Service conducted extensive tests of available pallets. It purchased 20,000 pallets of the type covered by this patent for testing in the

field. After these tests, the Postal Service concluded that the Penda design was superior to that of its competitors. Penda's design was strong and durable. As defendants' expert, Mr. Saunders, observed in regard to damages, this pallet is the type of product in which the commercial embodiment and the invention are largely coextensive. Just as apportionment of damages is not appropriate in such a situation, it is appropriate to impute the commercial success to the structures patented. *See Fromson v. Western Litho Plate & Supply Co.*, 853 F.2d 1568, 1570 (Fed. Cir. 1988); *Georgia Pacific Corp. v. United States Plywood Co.*, 3 F. Supp. 1116, 1132 (S.D.N.Y. 1970), *modified*, 446 F.2d 295 (2d Cir.), *cert. denied*, 404 U.S. 870 (1971).

b. Long-Felt but Unsolved Need - Failure of Others.

Plaintiff did not offer evidence as to any long-felt need for more durable plastic pallets. The inventors did testify that they believed this need existed, but their testimony did not establish how long others may have felt this need. Prior art publications introduced by defendant, however, establish that this need was long-felt and unsolved. The need to develop a better leg design was felt as early as 1970. *See* Steed, *supra*, at 43. Those in the industry were working on the problem at that point. *Id.* A later article recounts the initial failure to solve a problem. MacBride, *Plastic Pallets Are Coming on a Lot Stronger Now*, *supra*, at 60. MacBride teaches that plastic pallets were rushed to the market too quickly and had to be withdrawn, and that plastic pallets could not compete with wooden pallets in either compressive strength or rigidity. *Id.* Two years later, plastic pallets were still having trouble in the market, and twin-sheet pallets were still not very strong physically. *Some Straight Talk About Plastic Pallets*, *supra*, at 70. By 1974, at least three dozen companies had made major investments in making pallets stronger. MacBride, *Despite the Odds, Plastic Pallets Are Set To Grow*, *supra*, at 58.

Defendants contend that plaintiff's design would have been suggested by someone else much earlier, except that the oil embargo drove the price of plastics so high that plastic pallets were not a good investment in the mid-seventies. The articles defendants themselves offered for this point, however, show that for at least a four-year span in the early seventies, the plastics industry was working hard on developing a stronger plastic pallet. Even if the Brown machines were what eventually made such pallets commercially viable, they had been in use since the mid-seventies. Yet no one in the industry developed a plastic pallet like the one at issue before the inventors did so. The court finds that the plaintiff's invention did fulfill a long-felt but unsolved need, and rejects the notion that the particular structure developed by the inventors was an inevitable consequence of the particular machine used.

c. Reaction of Experts

Mr. McConnell testified as an expert in thermoforming. He has worked for many years in the field, and teaches seminars on thermoforming to various workers. His experience includes some design work and all aspects of the thermoforming industry.[18] Mr. McConnell said that he first saw the Penda pallet soon after it was introduced: "[F]rankly I was amazed at what I considered to be an ingenious way [of] increasing load bearing structure with the use of

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[18]A text in the field demonstrates Mr. McConnell's acknowledged expertise in this area. Defendants introduced as prior art the PLASTICS ENGINEERING HANDBOOK OF THE SOCIETY OF PLASTICS INDUSTRY, INC. (Joel Frados ed., 1976). Defendants' proffered expert, Dr. Singh, testified that the text is authoritative and of a type regularly relied upon by experts in the field of plastics. Among the portions of this chapter that defendants highlighted for the court to consider is a portion of a thermoforming troubleshooting chart written by Mr. McConnell.

those vertical fused sidewalls in the feet." Later in his testimony he elaborated:

> Q: What significance, if any, did you attribute to the Penda nestable twin sheet thermoform pallet when you became aware of it?
>
> A: Well, I felt it opened up another avenue for the pallet manufacturers, the next category of weight carrying pallets.
>
> But I also felt that it would help the industry in general, all of a sudden let us know, hey, we've been overlooking something for years. and that's fusing vertical sidewalls for structure, because there are a lot of other items besides pallets [for which] this can be an advantage.

d. Other Secondary Considerations.

Copying may also be evidence of nonobviousness. *Avia Group Int'l. Inc. v. L.A. Gear California, Inc.*, 853 F.2d 1557, 1564 (Fed. Cir. 1988); CHISUM, *supra*, § 5.05[5]; HARMON, *supra* note 6, at 102. Plaintiff urges the court to find that Mr. Waun in fact copied the patented pallet. Clearly he had access to plaintiffs pallet. Plaintiff introduced evidence of shipments to WolPac of samples of their pallets. Access and similarity, however, are the elements for proof of copying in a copyright case, not a patent case. These facts standing alone might not indicate that any copying occurred. Regardless, the court considered dubious the testimony of Mr. Waun on this point. It seems at best highly improbable that his employer, a small company, would simultaneously take a rush design job on a twin-sheet thermoform pallet and conduct extensive tests on a large number of such pallets without using that testing knowledge in the designs. Although these two functions may have been located in

different buildings, inasmuch as the company owner was involved in both projects, it is difficult to imagine the right hand not knowing what the left hand was doing to the extent indicated by Mr. Waun. The court finds Mr. Waun's assurances to the contrary not entirely credible.

Acquiescence in licensing the patent may be objective evidence of nonobviousness. 2 CHISUM, *supra*, § 5.05[3]; *see Eibel Process Co. v. Minnesota & Ontario Paper Co.*, 261 U.S. 45, 55-56 (1923). Since this action was commenced, Cadillac has negotiated a license from Penda. Although a clause in the license indicates that the parties to the license did not consider it evidence of an established royalty, that agreement does not mean that the license may not be considered as evidence of some level of acceptance. The license was introduced into evidence by the government, which insisted that the court should allow it to use the license as evidence of a reasonable royalty since it was not a party to the license and did not stipulate that the license should not be used as evidence of an established royalty. Although other factors beside acceptance of patent validity may have contributed toward Cadillac's entering this license, those same factors would limit the relevance of the agreement with respect to the amount of a reasonable royalty. Although of minimal probative value, the court does consider Cadillac's acceptance of this agreement to be at least some evidence of the patent's validity.

Likewise, laudatory statements regarding the patented invention may be some evidence of nonobviousness. *See Akzo N.V. v. United States Int'l Trade Common*, 808 F.2d 1471, 1481 (Fed. Cir. 1986), *cert. denied*, 482 U.S. 909 (1987). *But see* 2 CHISUM, *supra*, § 5.05[5] (criticizing this use). The Postal Service was apparently quite impressed with the Penda pallets, which embodied the invention. The evidence at trial clearly showed that the Postal Service thought the Penda pallets superior to any other they had used, albeit more expensive.

e. Finding as to Secondary Considerations.

The secondary considerations, the so-called objective indicia of nonobviousness, on balance favor patent validity.

5. Conclusions as to Nonobviousness.

Defendants have failed to prove by clear and convincing evidence that the Penda patent is obvious within the meaning of section 103. The court concludes that the differences between the subject matter patented and the prior art are such that the subject matter as a whole would not have been obvious to one of ordinary skill in the art to which the subject matter pertains. In reaching this conclusion, the court has first considered and made findings about the scope and content of the prior art, the differences between the prior art and the claimed invention, the level of ordinary skill in the art, and objective indicia of nonobviousness. Much of the prior art discussed at trial had been presented to the examiner during the prosecution of this patent. Most of that which was not was less pertinent than that which was.

Defendants have failed to provide clear and convincing evidence that the examiner erred in his determination that the claimed subject matter was nonobvious over Bell, Hammond, McIlwraith, Rowlands, Szatkowski, and Vissers. Although the record does not indicate explicitly that the examiner considered Woolworth,[19/] the court finds

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[19/]The court is inclined, in light of the statutory presumption of validity, to conclude that the examiner considered all pertinent prior art unless the defendants can show otherwise through clear and convincing evidence. The court need not predicate its decision on that conclusion, however, inasmuch as the other art cited in this case is no more pertinent than the art which it is known the examiner actually considered.

that this prior art reference is no more pertinent than those it is known the examiner did consider.

Defendants have urged the court to declare plaintiff's patent invalid based on a combination of prior art references. To this end, in their pretrial memorandum defendants cited *Orthopedic Equipment Co. v. United States*, 702 F.2d 1005, 1013 (Fed. Cir. 1983), for the proposition that features may be obvious in view of a combination of references, even if the features of one reference cannot be substituted physically into the structure of another. Defendants further urged the conclusion that the claims are invalid as obvious because they are "mere permutations of known techniques." Defendants cited no authority for the latter standard.

The law on this point is well settled. There is no special test for inventions that are combinations of old elements, because virtually all inventions are combinations. *Intel Corp. v. United States Int'l Trade, Comm'n*, 946 F.2d 841, 842 (Fed. Cir. 1993); HARMON, *supra*, note 6, at 84. One might as well contend that a book contains nothing new because it coins no new words and is thus merely a combination of old elements. Furthermore, it is permissible to combine prior art references only if the prior art itself suggests the desirability of such a combination. *Panduit Corp.*, 810 F.2d at 1568; 2 CHISUM, *supra*, § 5.04[l][e]. Defendants have failed to prove by any measure, let alone prove by clear and convincing evidence, that the prior art does suggest such a combination.

In the preceding sections, the court has determined the scope and content of the prior art, the differences between the claimed subject matter and the prior art, the level of ordinary skill in the art in 1980, and the import of the objective indicia of nonobviousness. The level of ordinary skill in the art is fairly modest in comparison with many technological arts. The differences between the claimed subject matter and the prior art are substantial. The claimed subject matter as a whole would not have been obvious to one of ordinary skill at the time the invention was made.

D. Reasonable and Entire Compensation

The plaintiff has proven infringement, and defendants have failed to prove their affirmative defense of invalidity. We therefore must determine the amount of plaintiff's "reasonable and entire compensation" for the government's use of the patented invention. Both sides essentially agree on the methodology for determining damages, but sharply disagree on an appropriate amount.

Both sides presented evidence as to damages primarily through expert witnesses. The witnesses who testified for plaintiff on the subject were Mr. James Malikowski and Mr. Howard W. Bremer, Esq., both of whom testified as experts, and Mr. Jack Bauman. Defendant presented the testimony of Mr. Robert Saunders, Esq., as an expert.

Mr. Malikowski is a vice-president and a principal of the I.P.C. Group, a financial consulting firm that focuses in two primary areas: litigation support and business valuation. He has testified on intellectual property matters more than 100 times. Mr. Malikowski holds degrees in both accountancy and philosophy, and is a certified C.P.A. He is a member of the Licensing Manufacturing Association and numerous accounting organizations. He is on the board of trustees of the Licensing Executive Society and the board of the Chicago chapter of the National Organization of Accounting. He worked for Peterson & Company evaluating intellectual property and has previously evaluated licenses for patents. He also serves as a guest lecturer at John Marshall School of Law as an expert in patent damages and reasonable royalties. Mr. Malikowski claims no particular expertise in pallet design or thermoforming. He was retained by Penda to determine the value of a reasonable royalty in this case. Dr. Lewis Koppell of I.P.C. Group assisted him in performing this evaluation. Dr. Koppell has an M.B.A. and a chemistry degree. Mr. Malikowski opined, on the basis of a willing-

licensor/willing-licensee hypothetical negotiation, that a reasonable royalty would be in the range of $3.00 to $3.50 per pallet.

Since 1988, Mr. Bremer has worked as a consultant in patent and licensing matters. After receiving his undergraduate degree from the University of Wisconsin-Madison in chemical engineering, in 1944, and after serving in the Navy for approximately two years, he returned to the University of Wisconsin and attended law school, from which he graduated in 1949. He worked first as a patent attorney in the Patent Division of Proctor and Gamble Company, Cincinnati, Ohio. His work there included patent and licensing issues involving royalties. During his twelve years with Proctor & Gamble, Mr. Bremer participated in forty to fifty license negotiations. When he left, Mr. Bremer was responsible for all of the patent work on soaps and detergents, which included patents on packaging machinery, packages, the detergents themselves, and the processes for making them. He also participated in monitoring any preexisting license agreements.

After leaving Proctor & Gamble, Mr. Bremer worked for the Wisconsin Alumni Research Foundation (WARF)[20/] from December of 1960 until retiring in 1988. For the first fifteen years of his employment with WARF, Mr. Bremer was its sole patent counsel. As such, he evaluated all the faculty's inventions, patented them, and licensed them out to industry. He participated both in negotiating several hundred new licenses and in monitoring existing ones. The bulk of his work was licensing out, because an entity in WARF's position would rarely license in. Because the University research function covers almost all disciplines, WARF dealt with any subject

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[20/] WARF is the patent management arm for the University of Wisconsin, with which it has been associated since 1925. It evaluates inventions that the faculty bring in. Where patenting seems appropriate, WARF patents the inventions, licenses them to industry to generate royalty income, and returns the proceeds to the University to support research.

matter that arose, ranging in origin from the engineering schools to the biochemistry department. The inventions brought to WARF included very simple mechanical items, complex mechanical contraptions, electronic devices, and much from the chemical art.

Plaintiff called Mr. Jack Bauman as a fact witness. Mr. Bauman's background is presented because it is relevant in considering certain licenses he negotiated which plaintiff introduced into evidence. He received his undergraduate degree from Colgate University in 1950. He also attended Harvard Business School in 1972. Mr. Bauman worked twenty-eight years for Union Camp Corporation, a manufacturer of paper and related converted paper products. He was General Manager of the Bag Division when he resigned on August 1, 1978. Mr. Bauman estimates that he participated in seven or eight negotiations to license products during his last seven or eight years at Union Camp.

After then serving as president of P.C.L. Packaging for three years, Mr. Bauman consulted on several projects and set up United States sales organizations for two Canadian companies, one of which was in the thermoform business and one of which was in the plastic flexible packaging business. His last consulting project, which began in February 1984, was with Bigelow Sanford ("Bigelow"), with which he remained until 1990 when he took his present position. At Bigelow, Mr. Bauman reported directly to the Chairman of the Board. In January 1985, Bigelow created a separate entity called Bigelow Packaging, which did business under the name Big-Pak. Mr. Bauman was made General Manager of that division, where his principal responsibilities were to commercialize the package covered under a patent Bigelow owned for a returnable, reusable, bulk container system comprising mirror image top and bottom single sheet pallets separated by a triple, uncorrugated sleeve. In developing this package, Mr. Bauman participated in four or five license negotiations.

When Mr. Bauman took over the division in January of 1985, it owned a number of plastic pallet molds scattered among several

thermoformers. These thermoformers' products were not of uniform quality. Also, the pallet was not sufficiently rigid for larger applications. Mr. Bauman testified that, before deciding to deal with Penda, he surveyed most of the thermoformers in the United States first for their ability to get a consistent quality in the existing pallets, and second for solutions to the problem of excessive flexing. Mr. Bauman then negotiated a license with Penda for the patent in suit.

Defendants called Mr. Robert J. Saunders, Jr., as an expert witness. Mr. Saunders completed the basic engineering program at Rose Polytechnic Institute while in the Army during World War II, graduated from Fordham University in physics in 1948, and received his J.D. from Fordham Law School in 1951. He worked first in the legal department of General Electric, principally in the radio and T.V. department and some related product lines. He handled all phases of the patent work, including procurement or evaluation of third-party patents, and negotiated one or two license-in patents and no license-out patents. He then joined the Texaco patent department, where he worked until 1972. As a patent attorney for Texaco, Mr. Saunders handled inventions in electronics and physics, principally nuclear well logging data processing, or any invention other than primarily chemical inventions. He later worked heavily in licensing technologies in which a petroleum company would be involved, including electronics inventions, seismic data processing, nuclear well logging, and fuel additives.

After leaving Texaco, Mr. Saunders served with Research Corporation. From its formation in 1987 until 1989 he also worked for an affiliate, Research Corporation Technologies, in Tucson, Arizona. At both corporations, he served as general counsel and retired as corporate secretary. As general counsel of both corporations, Mr. Saunders spent about ninety-five percent of his time on the practice of patent law and technology transfer, developing programs to license or otherwise commercialize technology. The corporations evaluated inventions to assess potential for generating revenue. Ordinarily, patent protection would be sought, followed by

licensing out. After seeking patents through outside counsel, the corporations negotiated the license agreements themselves. Mr. Saunders testified that he participated extensively in the licensing aspect of the business. The practice encompassed diverse arts. Since retiring, he has worked as a consultant in the private practice of patent law, mostly in the field of technology transfer and the transfer of patents and know how. He also does some consulting work on the prosecution and preparation of patents.

1. General Principles.

The government may take a license in any United States patent. *Decca, Ltd. v. United States*, 640 F.2d 1156, 1166 (Ct. Cl. 1980), *cert. denied*, 454 U.S. 819 (1981); *Calhoun v. United States*, 453 F.2d 1385, 1391 (Ct. Cl. 1972). The patentee's sole remedy is a suit in this court for its "reasonable and entire compensation" under section 1498. *Decca*, 640 F.2d at 1166. This remedy is premised on a theory of eminent domain. *Motorola, Inc. v. United States*, 729 F.2d 765, 768 (Fed. Cir. 1984); *Leesona Corp. v. United States*, 599 F.2d 958, 966 (Ct. Cl.), *cert. denied*, 444 U.S. 991 (1979); *Tektronix, Inc. v. United States*, 552 F.2d 343, 346 (Ct. Cl.), *modified*, 557 F.2d 265 (Ct. Cl. 1977), *cert. denied*, 439 U.S. 1048 (1978). The property interest taken by the government is a compulsory, compensable, nonexclusive license. *Motorola*, 729 F.2d at 768; *Leesona*, 599 F.2d at 968.

The "reasonable and entire compensation" owed the patent holder is equivalent to just compensation under the fifth amendment. *Calhoun*, 453 F.2d at 1395. Thus, the court has traditionally turned to the law of eminent domain for legal precedents to apply in determining "reasonable and entire compensation." *Leesona*, 599 F.2d at 967. Basic principles of fairness are the governing consideration in determining just compensation for an eminent domain taking. *Tektronix*, 552 F.2d at 347. These same principles guide in assessing reasonable and entire compensation. *Id.*

This court and its predecessors have employed several different methods in fixing the amount of reasonable compensation due one whose patent the government has infringed. Three of the measures the court has used are (1) a reasonable royalty,[21] (2) the patent owners' lost profits, and (3) the savings to the government. *Decca*, 640 F.2d at 1167. One way to monitor the reasonableness and fairness of an award is to compare the results derived from one measure, such as a reasonable royalty, to the results derived from another available method, such as lost profits or savings to the government. *Leesona*, 599 F.2d at 973.

Courts most frequently determine reasonable and entire compensation by calculating a reasonable royalty. *Decca*, 640 F.2d at 1172 (stating that "the reasonable royalty method is the preferred

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[21] A special example of a reasonable royalty is an established royalty. Where the evidence establishes a royalty rate used by the patentee in commercial licensing, the court will use that reasonable royalty as the basis for an award of compensation. *Calhoun*, 453 F.2d at 1393. If an established royalty rate is shown to exist, it is usually adopted as the best measure of reasonable and entire compensation. *Tektronix*, 552 F.2d at 347; *Calhoun*, 453 F.2d at 1394. Where a set license was widely used by the patentee, offered to everyone without restriction, and found many takers, the court assumes, in the absence of evidence to the contrary, that it represents a reasonable royalty. *Calhoun*, 453 F.2d at 1385; *see also Pitcairn v. United States*, 547 F.2d 1106, 1114-15 (Ct. Cl. 1976) (finding an established royalty based on one license and a generally extended offer), *cert. denied*, 434 U.S. 1051 (1978). This method is sometimes referred to as the "comparative royalty technique," because it employs "a comparison of the royalties charged others by the injured party for rights in the dame (*sic*, same) or similar patents." *Leesona*, 599 F.2d at 973. Also, the court may hypothesize a negotiation between a willing licensor and a willing licensee to determine a reasonable royalty. *Tektronix*, 552 F.2d at 349.

method of ascertaining the value of patent rights taken by the government"); *Leesona*, 599 F.2d at 968. They use the other two measures, lost profits and government savings, less often. A court may award lost profits only after the strictest proof that the plaintiff would in fact have earned and retained those sums on its sales to the government. *Tektronix*, 552 F.2d at 349; *see Leesona*, 599 F.2d at 971 (lost profits may only be awarded as an alternative to, not in addition to, a reasonable royalty). In a hypothetical negotiation, however, it is possible to consider the losses the licensor might suffer as one factor in determining the rate it would have sought. *Leesona*, 599 F.2d at 972 ("Some elements of business injury might be weighed in determining what the owner might have sold for."). Similarly, savings to the government are not used as a measure of compensation in preference to a reasonable royalty, *Decca*, 640 F.2d at 1172, but these savings may be employed in estimating the amount a willing buyer would offer a willing seller. *Leesona*, 599 F.2d at 971.

Because Penda did not establish a commercial licensing rate,[22]

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[22]In contrast to the case at bar, Calhoun provides an excellent example of a factual scenario in which it was appropriate to impute an established royalty. *Calhoun*, 453 F.2d 1385. The plaintiff owned a patent on a certain type of O-ring the government had used extensively. *Calhoun*, 453 F.2d at 1397. The plaintiff in that case licensed this patent throughout the industry at a set rate. *Id.* at 1394. It had filed with the patent office for announcement to the public a license form incorporating this set rate. It had granted many such licenses. The court found that the patentee had established a royalty it deemed appropriate for use of its invention. *Id.* The court found no evidence to indicate that the rate was not a fair market price and, in the absence of evidence to the contrary, assumed that the rate represented the full and fair market value. *Id.* The court concluded that, having determined the fair market value, it could award no larger amount. *Id.*

(continued...)

the court must turn to other methods, as did the court in *Tektronix*, 552 F.2d at 348. The plaintiff in that action was the owner of a patent on an oscilloscope and some related electronics that the government had used without permission. *Id.* at 345. Rejecting both

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[22](...continued)

The court gave examples of licensing agreements that were not considered probative of an established royalty in *Pitcairn*, 547 F.2d 1106. The patent owner in that case had, between the years 1932 and 1946, licensed its patent about nine times at several different rates, including 5%, 7%, and 0.85%. *Id.* at 1116. Because the taking occurred after 1946, the court declined to use either the prewar rates or the nominal wartime rate. *Id.* Instead, the court held that the plaintiff had established a postwar rate of 2%. *Id.* Plaintiff's actions in this regard consisted of licensing one manufacturer at that rate, and offering similar licenses to others. *Id.*

Unlike the plaintiff in *Calhoun*, Penda has no established licensing program. It does not freely offer licenses in its patent as did, for example, Union Camp. Penda's position is also unlike that of the plaintiff in *Pitcairn*. In *Pitcairn*, the plaintiff entered into a license agreement and offered the same agreement to several in the industry before its cause of action had completely accrued. Penda, however, only licensed Cadillac after the government had gotten all its pallets under this contract. Also, Penda only offered that same license to one other manufacturer, not to many. Moreover, Cadillac and Penda stipulated in their agreement that the parties did not consider the amount set probative of a reasonable royalty. This limitation within the four corners of the agreement significantly calls into question its worth as tending to prove an established royalty. The earlier license with Bigelow was for a substantially larger amount. The court finds that this discrepancy is sufficient contrary evidence to overcome the suggestion that the three percent rate was the full and fair market value.

the "nominal sliding-scale royalty" proposed by defendant and the plaintiff's theory of lost profits, the court concluded that the best method of computing compensation would be to determine a reasonable royalty by applying the willing-buyer/willing-seller method, *id.* at 348-349, observing that the method is exemplified by *Georgia-Pacific*, 318 F. Supp. at 1116.

Tektronix approved the use of a hypothetical negotiation to determine a reasonable royalty in a section-1498 action and noted that *Georgia-Pacific* exemplifies that method. 552 F.2d at 348-49. The Federal Circuit subsequently has approved the use of the factors enumerated in *Georgia-Pacific* to determine a reasonable royalty in the context of a private suit for infringement. *Smithkline Diagnostics, Inc. v. Helena Lab. Corp.*, 926 F.2d 1161, 1168 (Fed. Cir. 1991).

Just as in *Tektronix*, the parties in the case at bar agree that there is no established royalty rate and differ substantially in their evaluation of what a reasonable royalty rate should be, drawing on the fifteen factors listed in *Georgia-Pacific*. The ultimate purpose of applying the *Georgia-Pacific* factors is to determine what a willing licensee would pay a willing licensor for the rights taken by the government. Most of the evidence on these factors came from expert witnesses.

2. The *Georgia-Pacific* Factors.

The *Georgia-Pacific* factors "state the practical considerations in royalty negotiations between a hypothetical willing licensor and licensee." *Sun Studs, Inc. v. A.T.A. Equip. Leasings, Inc.*, 872 F.2d 978, 994 (Fed. Cir. 1989), *overruled in part on other grounds, A.C. Aukennan Co. v. R.I. Chaides Const. Co.*, 960 F.2d 1020, 1039 (1992). Whether to treat the government or Cadillac as the licensee for purposes of this analysis depends on the approach used and the factor involved. The contractor operates under the aegis of the sovereign's power to take a license under the second paragraph of section 1498(a). *Decca*, 640 F.2d at 1166, 1167. Hence, at some

points in the analysis, it is more useful to treat the government as the hypothetical licensee. *See Leesona*, 599 F.2d at 971 (may use savings to the government in determining the amount a willing buyer would pay a willing seller). In the context of a hypothetical negotiation, however, it is sometimes more appropriate to consider the hypothetical licensee to be the manufacturer of the product, rather than the government. *See Tektronix*, 552 F.2d at 349 (willing buyer of the license is considered to be the party which will manufacture the item).

The *Georgia-Pacific* factors were postulated in the context of a private infringement action. As such, they do not always fit squarely in an analysis under section 1498. Mr. Saunders, defendants' expert witness, recognized as much and referred to the test as setting up "artificial criteria." He stated that because *Georgia-Pacific* was a commercial case, applying the factors in the context required by the case at bar was questionable. It should be remembered that the entire hypothetical negotiation is a legal fiction, and that the "whole notion of a reasonable royalty is a device in aid of justice, by which that which is really incalculable shall be approximated." *Cincinnati Car. Co. v. New York Rapid Transit Corp.*, 66 F.2d 592, 595 (2d Cir. 1933); *accord Tektronix*, 552 F.2d at 351.

1. "The royalties received by the patentee for licensing of the patent in suit, proving or tending to prove an established royalty."

Penda licensed Bigelow to use the '306 patent at $2.00 per pallet. Mr. Malikowski was of the view that the amount in the Bigelow license establishes "a floor under the royalty." Because Bigelow was a retailer of plastic pallets and a customer of Penda, Mr. Malikowski believed that Penda would seek a higher royalty rate from Cadillac, a thermoformer that competes with Penda. Also, Mr. Malikowski thought that a very large, fixed price contract would justify a larger royalty than would the mere opportunity for the licensee to solicit business. Mr. Bremer concurred with Mr.

Malikowski that the $2.00 royalty was a floor, in the sense that he would ask for more than that in a negotiation to license this patent and would not be willing to settle for less. Mr. Bremer testified that he considered this and other royalty agreements, but did not believe that any of them, alone or in conjunction, served to establish a royalty. The only opinion he could draw from the agreements was that within this industry it was quite common to grant licenses on a per pallet basis. The court finds that although this license does not establish a royalty rate, it is the most relevant of the various license arrangements discussed at trial.

Two other license figures are of less value. While this litigation was ongoing, Penda and Cadillac entered into a license to govern any future use of the patent. Cadillac agreed to pay Penda three percent of sales or $ 1.00 per pallet, whichever proved less. The license includes a specific provision that forbids its consideration as an "established royalty" for purpose of this litigation. Nevertheless, inasmuch as the government was not a party to that arrangement, it has introduced the license as evidence of a reasonable royalty rate. Because of the disclaimer, Mr. Malikowski discounted the significance of the license. He also considered it less persuasive because the parties entered into it after the time when the hypothetical negotiation would have occurred. Mr. Saunders testified for defendant that the license entered into with Cadillac and a substantially similar license offered to Shuert-Oakland indicate what Penda would be willing to accept on a license negotiation. The probative value of these licenses is somewhat limited, however, because they show only what Penda would be willing to accept when mired in litigation and after at least one competitor has already paid the start up costs necessary to compete. What would have been reasonable compensation for Penda in 1988 might have been a different, and probably higher, figure.

On the question of establishing a floor under the royalty, it has been held that developmental expenses provide such a floor. *Leesona*, 599 F.2d at 978. On the facts of the case at bar, however, it is not clear that Penda necessarily should expect to recoup its entire

developmental cost on this one use by the government. In any event, Mr. Dresen testified that the developmental cost was about $250,000. That amount is less than the amount determined to be a reasonable royalty in this case. Whether or nor it is considered a "floor," therefore, is immaterial.

2. "The rates paid by the licensee for the use of other patents comparable to the patent in suit."

As discussed *supra*, it is the government, in this case, the Postal Service, which actually takes a license. That license authorizes it to contract with a third party to manufacture the infringing item. At trial, there was no evidence that the Postal Service ever paid for a license in a comparable patent. Nevertheless, in the context of applying the tool of a hypothetical negotiation to establish a reasonable royalty, it would not be unreasonable to look to what Cadillac has paid for rights under other patents comparable to the '306 patent as indicative of the reasonable and entire compensation due Penda. The only agreement under which Cadillac is the licensee is the Cadillac-Penda agreement discussed above.

3. "The nature and scope of the license, as exclusive or non-exclusive; or as restricted or non-restricted in terms of territory or with respect to whom the manufactured product may be sold."

Plaintiff and defendants disagree sharply on this point. Plaintiff's experts contended that the license taken in this situation was exclusive, while defendants' expert contended that it was not. Mr. Malikowski testified that he believed that the defendants owed Penda compensation for an exclusive license.

An exclusive license would require greater compensation. As Mr. Malikowski pointed out, if a licensee has an exclusive license, "It will be permitted to [practice] the technology and no one else will."

Thus, exclusivity in a license is best seen as an additional burden on the licensor and a benefit to the licensee, for which the licensee should be willing to pay more. The licensor thereby undertakes not to license any others, a thing he would otherwise have the right to do.

In rationalizing his position on exclusivity, Mr. Malikowski stated:

> It is my opinion that if Penda were obligated to license Cadillac for this proposal to the post office, they would have desired to maintain license to that one proposal only. They would not have wanted Cadillac out there competing with them generally in the marketplace. And so this license would be exclusive for the contract that we're talking about.

This position mistakenly discusses the exclusivity of a license, as a benefit to Penda, the licensor. The fact that Penda would want to license no others is a valid consideration in determining a reasonable royalty, but it enters into the mix under the fourth *Georgia-Pacific* factor, not the third.

Mr. Malikowski then employed his conclusion that the license was exclusive to impute a royalty of $3.30. Mr. Malikowski reasoned that because this is an exclusive license from Penda to Cadillac, Cadillac would have offered as its bid the lowest noninfringing bid and would have paid Penda the difference as a royalty. In connection with this factor, it becomes apparent that it is significant that the United States, not Cadillac, is the entity that has the authority under section 1498 to take a compulsory license. The United States was free to award this contract to a party other than Cadillac, subject to the limitations of the bidding process.

When counsel for defendant pointed out that Penda had already granted a nonexclusive license under the '306 patent to another entity, Bigelow, Mr. Malikowski sought to preserve his conclusions by suggesting that Penda could have granted Cadillac an exclusive license

within the specific market of bidding on this Postal Service contract. Penda could not have done so. It had no power to prevent others from bidding on or receiving the Postal Service contract with articles that would infringe the '306 patent.

Mr. Malikowski explained during his testimony that he did not consider his assignment to be to determine a reasonable royalty from the Postal Service to Penda. He believed "reasonable and entire compensation" to be a royalty rate which Cadillac would be willing to pay to Penda. It is true that at least one previous case determined reasonable compensation from "a willing-buyer/willing-seller concept, in which a suppositious meeting between the patent owner and the prospective manufacturer of the infringing article is held to negotiate a license agreement." *Tektronix*, 552 F.2d at 349. The court in that case went on to apply the test by considering a negotiation between the plaintiff and the third-party defendants. Although this approach is useful and does justify considering the third-party defendant as at least participating in such hypothetical negotiations, Mr. Malikowski's conclusion illustrates the fallacy of applying this reasoning too rigidly. The patent owner and the manufacturer could not, in the hypothetical negotiation, agree on an amount to charge the government because the government takes the compulsory license by eminent domain.

Mr. Bremer stated on direct that as a rule of thumb in the licensing community, an exclusive license is worth two times a nonexclusive license because the grantor of an exclusive license assumes the obligation to exclude all others, to protect the licensee, and to preserve the licensee's right to practice that invention. The court finds no indication that Penda assumed any such obligation here with respect to either the Postal Service or Cadillac. It may well be that Penda would choose to enforce its patent right to exclude others, but that choice to exercise a right would differ substantially from incurring an obligation so to act. Nevertheless, Mr. Bremer agreed with Mr. Malikowski's statement that this is an exclusive license. Although he acknowledged that the Postal Service must also be considered a licensee, he referred to the Postal Service and Cadillac

as being in consort. He did not explain, however, why he believed that Penda assumed, as a result of the government's actions, an obligation to exclude others. Mr. Bremer did point out that in a real negotiation the prospective licensor would probably have to stop anyone who was infringing the patent in order to maintain a viable negotiating stance. That observation, however, is not relevant to whether the license taken by the government was exclusive in nature. As with Mr. Malikowski's statements, it pertains more to what Penda might choose to do than to what Penda was obligated to do. Mr. Bremer's acknowledgment that the Postal Service would not care whether it received an exclusive license is, on this point, telling. It is the government's use that determines the scope of the license for which the parties will bargain in the hypothetical negotiations. That Cadillac might have wished for exclusive rights is irrelevant.

Mr. Saunders, defendants' expert, agreed with Mr. Bremer that a promise of exclusivity may double the value of a license, but maintained that the license here being valued was not exclusive. Under a nonexclusive license, the licensor grants only a bare right to work the patent, but gives the licensee no market control.

The Federal Circuit has said that under section 1498, the government is in the position of "a compulsory, nonexclusive licensee." *Motorola*, 729 F.2d at 768. Moreover, in an earlier Court of Claims case it was said, "It is true that the patent right taken by the government was not exclusive in a legal sense." *Decca*, 640 F.2d at 1181. *Decca* did proceed to hold that "the patent rights taken by the Government were, practically speaking, exclusive." *Id.* That holding is best limited, however, to the unusual facts in Decca. The patent taken by the government pertained to satellite communication. Inasmuch as the government was implementing a world-wide system, the Court of Claims decided that no one would incur the cost of

establishing a duplicative system.[23/] Unlike that situation, plaintiff in the case at bar may continue to derive benefit from the patent. In sum, the court rejects plaintiff's contention that the reasonable royalty should be set higher to cover an exclusive license.

4. "The licensor's established policy and marketing program maintain his patent monopoly by not licensing others to use the invention or by granting licenses under special conditions designed to preserve that monopoly."

This court's predecessor answered in the affirmative the question whether a patentee's reluctance to license could be considered in determining reasonable and entire compensation for a government use. *See Leesona*, 599 F.2d at 976. The plaintiff in that case owned a patent on a type of battery. *Id.* at 962. Until the government's infringement deprived it of its exclusive right to manufacture the batteries in the United States it had never licensed them domestically. *Id.* at 976. The Court of Claims there found that the plaintiff did not want to relinquish its exclusive manufacturing right and would in fact have charged a high fee for a license surrendering that right. *Id.* The court held that although the license agreement was deemed to involve a willing licensor, that licensor is still the plaintiff and embodies all of the plaintiff's particular interests. *Id.* Moreover, the court justified its decision by reference to the general law of eminent domain, in which the property is regarded from the point of view of the owner. *Id.* at 977.

[23/]Even in *Decca*, the fact that the government's use of the pattern made other use highly unlikely did not in any real sense seem to make the license exclusive. The patentee had still assumed no obligation to exclude others. The facts identified in *Decca*, however, might very well imply that the scope of the taking encompassed the entire patent. The amount required to provide reasonable and entire compensation thus would be raised.

Before the events giving rise to this suit, Penda had licensed the '306 patent only once, for $2.00 per pallet. The licensee was Bigelow, one of Penda's customers. Penda did the actual thermoforming work for Bigelow. Furthermore, Penda had also received a license from Bigelow on other pallet technology. Mr. Malikowski argued that this factor mitigated strongly in favor of a higher royalty here. Based on his conversations with management at Penda, he determined that Penda's marketing policy did not include the grant of licenses. The company intended to exploit its patent rights by being the sole manufacturer of this article. Mr. Saunders found this factor to be of neutral import. He discussed Penda's licensing program, however, only in terms of the licenses it had entered into or offered. He did not indicate whether he considered the absence of extensive licensing indicative of a desire not to license.

The court is wary of adopting Mr. Malikowski's rationale in using the Bigelow licensing circumstances to leverage upward the calculations here. The Bigelow arrangement was informal, confirmed after the fact by a letter. The evidence plainly suggests that there was an amicable and ongoing business relationship between the two companies, which might prompt Penda to ask for a lower license in order to get access to Bigelow's own technology. It can also be argued, however, that the very fact of licensing suggests Penda's willingness to sell the right to utilize the patent. The most that the court derives with a degree of certainty is that the Bigelow arrangement was not contrived after the fact and is one of the most probative items adduced by either party as to a reasonable royalty. Neither it nor the Cadillac arrangement prompt a finding that Penda had an established licensing program.

5. "The commercial relationship between the licensor and licensee, such as, whether they are competitors in the same territory in the same line of business; or whether they are inventor and promotor."

This is one of the factors in which it is appropriate to consider Cadillac as the licensee. *See Tektronix*, 552 F.2d at 349. The commercial relationship between the patent owner and the manufacturer of the infringing article is likely to be more instructive as to the amount of a reasonable royalty than is the relationship between the patent owner and the government. In determining reasonable and entire compensation, it should not be disregarded that the government has essentially created a potential competitor for plaintiff. Even if, as defendants maintain, Cadillac made no profit on this job, it did cover the cost of obtaining tools to make this article. Moreover, as Mr. Malikowski observed, the work provided Cadillac with valuable manufacturing experience that it could subsequently use in competition against Penda. Even without the benefit of the subsequently executed license, this places Cadillac in a more favorable position from which to compete with Penda for business when the patent expires. This change in position is part of what plaintiff has lost, and should be considered in determining its compensation. This harm is dissimilar to consequential damages for lost business opportunity, for which plaintiff would not be entitled to recover.

Mr. Malikowski, treating Cadillac as the licensee, contrasted the commercial relationship between Penda and Bigelow on the one had between Penda and Cadillac on the other. Penda and Cadillac are competing thermoformers, both located in the industrial upper midwest. Bigelow, in contrast, is a regular customer of Penda's. The license with Bigelow authorized it to have pallets covered by the Penda patent made elsewhere, but contemplated that Bigelow would still get at least some of its pallets from Penda. Mr. Bremer generally agreed with Mr. Malikowski's assessment of this factor. On cross-examination, Mr. Malikowski acknowledged that the Postal Service had in the past been a customer of Penda's and that at the time of the taking was at least a potential future customer. This relationship contrasts to the competitive manufacturer-manufacturer relationship between Penda and Cadillac, but is analogous to the manufacturer-customer relationship between Penda and Bigelow. Mr. Saunders, in contrast, focused on the government as licensee. He contended that

because the Postal Service was potentially a big customer, Penda would have been less likely to press for a high royalty.

Both Penda's relationship with the government and Penda's relationship with Cadillac are valid considerations, but they do not entirely cancel out one another. On balance, the harm Penda would suffer from Cadillac (or whoever won the pallet contract) being able to pay for the cost of tooling up, eventually to compete with Penda, militates in favor of a higher royalty rate. Any similarities between the government's and Bigelow's relationships with Penda avails defendants little, because the amount the court ultimately sets as a reasonable royalty *infra* is somewhat less than the amount set in the license between Bigelow and Penda.

6. "The effect of selling the patented specialty in promoting sales of other products of the licensee; the existing value of the invention to the licensor as a generator of sales of his non-patented items; and the extent of such derivative or convoyed sales."

A convoyed sale occurs when the sale of the patented product naturally brings with it some additional components. Both Mr. Malikowski and Mr. Bremer dealt with this factor summarily on the basis that no convoyed sales were involved. Mr. Saunders agreed. He also suggested, however, that this large procurement might encourage others to buy this pallet and, therefore, work to plaintiff's benefit. This factor, as expressed in *Georgia-Pacific*, seems directed only to the extent to which convoyed sales might benefit the licensee. It does not concern the more general benefits of good publicity from sales. Insofar as this type of spillover effect is relevant, the court notes that, as Mr. Saunders pointed out on cross-examination, a company is not always associated with a product. Here, Penda received no publicity as a result of the large government procurement

because there was no acknowledgment of the use of Penda's patent.[24/] This factor does not suggest a diminished royalty.

7. "The duration of the patent and the term of the license."

With respect to the duration of the patent, there is little room for dispute. All the experts agree that at the time of the hypothetical negotiation the patent would have had twelve to thirteen years of remaining viability. This period is about two-thirds of the patent's entire term. If the patent were close to expiration, it would generally tend to depress associated royalties. Neither Mr. Malikowski nor Mr. Bremer addressed the question of the duration of the license. According to Mr. Saunders, the duration of the license would have been about two years. In any event, Mr. Saunders did not believe that this factor had any substantial impact on the assessment of a reasonable royalty in this case.

8. "The established profitability of the product made under the patent; its commercial success; and its current popularity."

Mr. Malikowski asserted that Penda has been successful in selling the patented pallet, sometimes at prices up to fifty percent greater than that charged by Cadillac to the Postal Service. He also testified that it had sold in large numbers. The source of Mr. Malikowski's information and the basis of his opinion with regard to commercial success were a meeting he had with Penda personnel and sales figures they supplied to him. On cross-examination, he was unable to recount any of the specific figures on which he based his opinion of commercial success, because it had been over a year and a half since he had actually conducted the analysis.

[24/] There is at least a suggestion that Cadillac, in contrast, did receive generally favorable publicity in industry journals.

Mr. Bremer agreed with Mr. Malikowski that the pallet was profitable, commercially successful, and popular. He indicated that this belief was based on discussions in which counsel for Penda indicated that these pallets sold for as much as $26 apiece at the time of the taking.

Mr. Saunders subdivided the eighth *Georgia-Pacific* factor into three components: the established profitability of the product, its commercial success and current popularity, and the licensee's profit expectations. As to the first two components he stated that he had insufficient information on which to form an opinion.[25/] As to the third component, he merely stated that the Postal Service considered this an expense and not a profit item. Additionally, Mr. Saunders stated that he did not think a nonexclusive license to the government would affect the commercial market. This particular factor, however, deals not with any effects of the licensing on the market, but on the market conditions as they existed at the time of the license. In the context of a normal infringement suit, this factor would be relevant because a willing licensee intending to exploit the commercial market should be willing to pay more if the product is already on demand.

In the context of a section-1498 action, exploitation of the existing commercial market is usually not an objective. The Postal Service had no mention of selling pallets. Even from the perspective of the manufacturer of the infringing item, the conditions in the commercial market are of little import. Absent a license from the patentee, the manufacturer of the infringing article may not exploit the patent except for government use until the patent term expires. The factor would be significant, however, in determining what value the reasonable licensor would place on the patent. The license is valued from the perspective of the licensor. *Leesona*, 599 F.2d at 977. In this case, plaintiff invested significant quantities of time and money in

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[25/]He did, however, repeat the contention that government use would be a positive form of advertising which would tend to create a demand.

developing a product that, based on the need perceived to exist by the inventors, it expected to be a commercial success. There is no question that in some respects that expectation was fulfilled.

9. "The utility and advantages of the patent property over the old modes or devices, if any, that had been used for working out similar results."

Mr. Malikowski opined that the patented pallet was stronger than other, similar devices. He said the basis of his opinion was conversations he had with Penda personnel. He recounted no independent research. Mr. Bremer concurred in this assessment, based on conversations he had with plaintiff's counsel. Mr. Bauman, a fact witness, testified that the patented invention was very useful commercially to him and to Big-Pak, his employer. He said that, in addition to being light, the Penda pallets provided a structural integrity unavailable from single sheet pallets. These features allowed him to exploit markets previously closed to him.

Mr. Saunders compared the patented pallet not to other available plastic pallets, but to other pallets in general. Although he conceded that the patented pallets were more durable, he pointed out that they were priced at a higher level in an inelastic market. He said that it was difficult to quantify the mixed effects of these two factors, and refused to draw a conclusion on the issue. Mr. Saunders' analysis fails clearly to focus on the patented invention. Plaintiff's patent did not cover all plastic pallets; it covered a particular structure of twin-sheet thermoform plastic pallets. Thus, there were other pallets of comparable durability that were substantially less rugged. There is no indication, however, of how the patented pallets would compare in price to these analogous pallets.

The most convincing evidence of the pallet's worth, however, comes from the Postal Service itself. This material is discussed in the context of the next factor.

10. "The nature of the patented invention; the character of the commercial embodiment of it as owned and produced by the licensor; and the benefits to those who have used the invention."

In addressing this factor, Mr. Malikowski formed his opinion as to the benefits of the invention based on Postal Service employee statements about the extent to which these pallets were superior to other products. Mr. Malikowski used these statements to impute a numerical value to the Postal Service's use of the product. His goal in calculating these figures was to ensure that the opinion he formed as to a reasonable royalty was not so prohibitively high that the Postal Service would not accept it. It served as a test factor, to make sure the assessment would in fact, be reasonable to the Postal Service.

Mr. Malikowski computed what he understood to be the Postal Service's willingness to pay based an internal assessment done by the Postal Service. He then used that calculation to place an upper boundary on the royalty. Exhibit 200 reflects a summary of Postal Service documents discussing the cost per trip of the thermoform pallet in comparison to composition pallets. The documents summarized are primarily memos from Marshall Weiss, the director of acquisition or agent responsible for this contract. Mr. Malikowski used the estimates in these Postal Service documents as the bases of his calculation of cost savings to the government.

Mr. Malikowski relied on a memo of May 15, 1987, from Mr. Weiss to Frank Hanson to show that the Postal Service expected a thermoform pallet to cost about 45 cents a trip, whereas the composition pallet would cost anywhere between $1.00 and $1.50 per trip. Mr. Malikowski considered the differences between 45 cents and $1.00 and $1.50 respectively to be what the Postal Service would have considered the minimum and the maximum benefit per trip by using the thermoform pallets.

The second Postal Service document to which Mr. Malikowski referred was a memo dated November 20, 1987, from Mr. Weiss to Mr. Gary Litwinowicz. Mr. Malikowski had to make an adjustment on pricing to use this document. In 1987, the Postal Service hoped to buy the pallets at $16.00 each, but there were no responsive bids at $16.00. Mr. Malikowski therefore adjusted the price from $16.00 per pallet to Penda's bid price. His third note in the column on Exhibit 200 labeled "Documents" reflects this adjustment, which resulted in a cost per trip estimate of 43 cents. In this second memorandum, the Postal Service estimated that composition pallets would cost $1.50 to $2.00 apiece. Mr. Malikowski then derived the figures 1.069 and 1.569 by subtracting the 43 cents from the $1.50 and the $2.00, respectively, as shown in the exhibit.

After calculating these several possible values for the benefit to the Postal Service, Mr. Malikowski adopted the most conservative estimate he had calculated: fifty-five cents. He multiplied this amount by the number of trips the Postal Service expected to get out of each new pallet. According to Mr. Malikowski all the documents anticipated 50 trips. Mr. Malikowski opined that the number 50 was in fact very conservative. He suggested that the pallets shipped are still being used and have been used many more than 50 times. He was principally interested, however, in conservatively estimating the value the Postal Service would place upon the pallets. Multiplying 55 by 50 gives a the [*sic*, the] value to the Postal Service of $27.00 per pallet. Mr. Malikowski therefore believed that the Postal Service should have been willing to pay up to $27.50 per pallet because it would still be economically advantageous over composition pallets.

Mr. Malikowski also used these cost calculations to determine what he thought the Postal Service should have been willing to bring to the bargaining table in the form of a reasonable royalty. Although in general Mr. Malikowski considered Cadillac to be the licensee, for the purposes of this calculation he treated the Postal Service as the licensee. To derive this figure he started with the savings as shown

in the first block of exhibit 197 and multiplied it by the number of trips. This operation results in the $27.50 seen before. He then applied a rule of 25 percent of the benefit going to the licensee[26/] and multiplied $27.50 by 25 percent to get $6.87. Mr. Malikowski felt that this calculation indicated that the Postal Service, if this negotiation were between them and Penda directly, should have been willing to pay up to $6.87 in the form of a reasonable royalty. Exhibit 197 also reflects Mr. Malikowski's calculations based on the possibility of a different number of trips.

Mr. Bremer adopted Mr. Malikowski's statement on this factor. He studied the same Postal Service documents as Mr. Malikowski pertaining to the value of the pallet in issue.

The court is reluctant to place great weight on these calculations. The very size of the figure Mr. Malikowski derived by this methodology suggests that it is questionable. It is far out of line

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[26/]Witnesses for both plaintiff and defendant referred to a heuristic under which the licensor receives about twenty-five percent of the benefit. Mr. Malikowski said an appropriate range of ratios would be twenty-five percent to thirty-three percent, while Mr. Saunders maintained that an appropriate range was considered to be twenty percent to twenty-five percent. Both were of the opinion that twenty-five percent was the appropriate end of the range, whether they believed it represented an upper or a lower bound. The Court of Claims would on occasion award a percentage of governmental savings as the quantum of reasonable and entire compensation, but the percentage employed varied with the facts of the case. *See, e.g., Shearer v. United States*, 101 Ct. Cl. 196, 210 (1944) (awarding twenty percent of the government's savings); *Marconi Wireless Telegraph Co. of America v. United States*, 99 Ct. Cl. 1, 71 (1942) (awarding sixty-five percent of the government's savings); *Olsson v. United States*, 87 Ct. Cl. 642, 661 (1938) (awarding twenty-five percent of the government's savings).

with any royalty offered into evidence. It has certainty only in the mathematical sense, but it is based in large measure on subjectively determined figures. Collectively, there are simply too many points at which the hard figures introduced into Mr. Malikowski's calculations are in fact only estimates. The cost savings per trip, the number of trips, the percentage of savings to allocate to a royalty, are all inherently uncertain. While it is appropriate to look to Postal Service estimates as to the fact of an anticipated cost saving, however, the court does not believe the figures relied upon were intended to bear the weight imposed by this analysis.

Mr. Saunders' analysis of the tenth factor differed substantially. He observed that the patented invention is a plastic pallet for transporting mail and other products. It is a commercial industrial product that in a license situation would be made in rather large quantities and sold directly to the user. It is not a consumer product. He described the benefit to those who have used the invention to be the increased lifetime, but at additional cost. In his view, factor ten differs from nine in adding another element, the nature of the patent invention. It is a commodity-type product, in the sense that it's made in volume and sold to the customer. He explained that usually, the mark-up is less than some other types of product. This is not an iron-clad rule, but ordinarily industrial commodities, especially where there is competition, do not have the same mark-ups as, for example, pharmaceuticals.

If there really is no competition because an item is unique, the mark-up probably would be greater. Its value would be reflected in the mark-up and the margin of profit. In Mr. Saunders' view, however, there is competition. The analysis is complex because the patented pallets have different characteristics from the competing items, but they serve the same purpose. Different pallets have different lifetimes and different costs. The patented pallet is not so distinctive as to have no competing products. Mr. Saunders identified a longer lifetime as the principal benefit. Mr. Saunders' analysis of factor ten led him to decide that because this was the kind of product

that bears a lower mark-up, a prospective licensor could not push for an unreasonably high royalty, or the kind of royalty one would get in the case of pharmaceuticals, where the licensee has tremendous mark-ups and market exclusivity because of factors in addition to patents, such as government approvals from the FDA. Because he believed that there were noninfringing alternatives to which the government could have resorted, Mr. Saunders did not believe this factor militated in favor if [*sic*, of] a higher royalty.

Once again, the court is not entirely persuaded. Mr. Saunders did not give full credit to the uniqueness of the invention. It is true that there are competing products, but the advantages of the patented invention created a performance gap that had monetary significance. In some sense a hand spade can do the same work as a shovel, but the shovel is more cost effective for larger projects. Mr. Saunders' assumption that the patented invention would receive a lower mark-up was not persuasively established.

11. *"The extent to which the infringer has made use of the invention; and any evidence probative of the value of that use."*

The experts' opinions again diverged as to factor number eleven. Mr. Malikowski, maintaining his position that Cadillac was the infringer, returned to the argument that this license essentially put Cadillac in the business of making twin-sheet thermoform pallets. He asserted that "the invention" allowed Cadillac to submit quotes to the Postal Service and to other customers. What he meant by this statement is not entirely clear. On its face, it does not seem consistent with his earlier testimony that he considered this to be an exclusive license because Penda would want it to be exclusive to this job.

Mr. Bremer's analysis of this factor was more cogent. He agreed with Mr. Malikowski that the compulsory license essentially set Cadillac up in the business of making twin-sheet thermoform

pallets. He explained that Cadillac, once having set up the operation and having resolved any problems encountered in implementation, would be in a position to bid to the Postal Service or other postal customers. The extent of the use under this compulsory license, however, would be limited to this contract. In particular, Cadillac would not be able to bid on contracts to private industry without securing an appropriate license from Penda.

Mr. Saunders addressed this factor from the perspective of the extent of the government's use. First, Mr. Saunders did not believe that the size of the order, 640,000 pallets, would be likely to have any effect on the amount to be negotiated as a reasonable royalty in hypothetical negotiations. Certainly, he did not believe that an order for a large volume would raise the royalty. Second, Mr. Saunders, in the context of this factor, concluded that there was not enough reliable information upon which he could decide whether there were any actual government savings.

Mr. Saunders' analysis on this point illustrates a troubling aspect of his testimony. He showed virtually total reluctance to concede that any factor militated in favor of the plaintiff. Mr. Malikowski, in contrast, though generally arguing on the plaintiff's behalf, seemed at times willing to give the government the benefit of the doubt in his analysis. In addition, some of Mr. Saunders' explanations of why a factor should be interpreted to favor the defendants and not the plaintiff were often facile. In any event, his argument with respect to the savings to the government, whether considered under factor eleven or factor ten, was unpersuasive.

Although Mr. Malikowski's analysis of the benefit to the government did not reduce all amounts to present value, and though the imprecision inherent in his calculations gives the court pause, the court finds ample evidence that the Postal Service expected to save a significant amount of money by using these thermoform pallets. A hypothetical licensee in 1988, likewise expecting to save money, should have been willing to pay a royalty based on that expectation.

12. *"The portion of the profit or of the selling price that may be customary in the particular business or in comparable businesses to allow for the use of the invention or analogous inventions."*

Mr. Malikowski and Mr. Bremer both considered the agreements discussed under factors one and two to be the only pertinent ones in this case. Neither added any substantively new analysis under factor twelve. Mr. Saunders, however, employed this factor to discuss other licenses. The plaintiff presumably put these licenses in evidence as indicative of a reasonable royalty.

Mr. Saunders first discussed a license from Ford Motor Company to Penda with respect to the use of a certain tool. Under this license, Penda must pay Ford a royalty of $2.00 per part manufactured with the molds. It is not clear that this represents a royalty on a patent. It appears to be merely a usage fee for the molds. Mr. Saunders, therefore, discounted this agreement's significance under factor twelve. Mr. Saunders also was unable to extract any information he considered useful from any of the licenses granted by Bigelow.[27/] Mr. Bauman negotiated these licenses, and they were introduced through him. Bigelow licensed a certain company to use one of Bigelow's patents, but Mr. Saunders did not find the $2.50 royalty specified in that agreement instructive because he knew neither the value of the pallet involved nor the quantum of that market, and because the minimum amounts involved were rather small. Mr. Saunders also did not consider significant another license to a different company, also for $2.50, because it was an exclusive license for a foreign country and included trademark rights and obligations and know-how transfer. Mr. Saunders did not consider comparable another license for pallets to yet a third company, set at

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[27/]Because these licenses involve the confidential business affairs of persons not involved in this suit, details such as the names of the parties are omitted.

five percent of sales, because he did not know the volume involved under that license or whether the products were comparable.

Although Mr. Saunders is correct in noting that none of these licenses is directly on point with the hypothetical license for the patent in suit, that is not the standard called for under factor twelve. These licenses were in the same or a comparable business. Both Bigelow and Penda are in the business of selling pallets, and all of these licenses pertain to that business. The court duly notes the differences between these licenses and the hypothetical license for the patent in suit. The court also notes that while each of these licenses includes unique terms, they all are for comparable amounts. Although the court does not consider this sufficient evidence to show that a license of about $2.50 was the prevailing rate on pallet technology, the court does consider it some evidence of a reasonable rate in similar circumstances.

13. *"The portion of the realizable profit that should be created to the invention as distinguished from non-patented elements, the manufacturing process, business risks, or significant features or improvements added by the infringer."*

Neither Mr. Malikowski nor Mr. Bremer considered this factor as a major component of their analysis. Mr. Malikowski opined that at least twenty-five percent of the realizable profit should be attributed to the invention. It was plain from his testimony, however, that he meant instead to use twenty-five percent of incremental profit. Mr. Bremer generally agreed with Mr. Malikowski.

This factor was the focal point of Mr. Saunders' analysis. He first calculated Penda's expected profit as a percentage of its sales cost. Next, he postulated that a reasonable royalty rate would be twenty-five percent of Penda's expected percent profit. Mr. Saunders,

by applying this technique, decided that 2.1% of Cadillac's sales price of $18.93, or approximately $.40, would be a reasonable royalty.

The Court of Claims relied on this factor in assessing a reasonable royalty in at least one case. *See Tektronix*, 552 F.2d at 349. To determine the amount an infringer would have been willing to pay, the court took the selling price of the article, deducted both fixed and variable manufacturing costs to find gross profit, then allocated to the infringer its "normal" profit and assigned the rest to the patentee as a royalty. *Id.* This reasoning would seem to assume implicitly that the selling price of the article in some way incorporates the value of the property taken, so that the manufacturer would be making more on this sale than it otherwise would have.

The court does not accept Mr. Saunders' analysis. His use of this factor differed sharply from the use approved of in *Tektronix*. He made his calculations based on Penda's expected profit on this job, rather than on the basis of the profit of the accused infringer. *See id.* at 349-351. He testified that he did so because, though Cadillac claimed to have made no profit, it would have been unfair to deny Penda a royalty on that basis. The court agrees that it would be unfair to deny Penda a royalty. That Cadillac apparently bid this job without the expectation of making any profit runs counter to the implicit assumption of the court in *Tektronix* and indicates that the approach used there is not appropriate on the facts of the case at bar. The court does not agree, however, that the alternative method Mr. Saunders employed produced a reasonable royalty. Mr. Saunders' method produces a royalty value of less than forty cents per pallet. The next lowest royalty value shown in any license offered in evidence was a minimum of $1.00 or 3% of sales. The evidence, viewed as a whole, does not support a conclusion that Penda's royalty should be that low.

14. *"The opinion testimony of qualified experts."*

Mr. Malikowski ultimately concluded that a reasonable royalty would be between $3.00 and $3.50. Mr. Bremer also stated that he believed a reasonable royalty would be about $3.00 per pallet or, on the high end, as much as $3.50. Mr. Saunders believed that 2.1 percent of the sales price of $18.93, or thirty-seven cents per pallet, would be a reasonable royalty for the first 320,000 pallets. Although instructive, the court found none of these opinions completely persuasive.

15. *"The amount that a licensor (such as the patentee) and a licensee (such as the infringer) would have agreed upon (at the time the infringement began) if both had been reasonably and voluntarily trying to reach an agreement; that is, the amount which a prudent licensee - who desired, as a business proposition, to obtain a license to manufacture and sell a particular article embodying the patented invention - would have been willing to pay as a royalty and yet be able to make a reasonable profit and which amount would have been acceptable by a prudent patentee who was willing to grant a license."*

Mr. Malikowski testified extensively with respect to this factor. He constructed an elaborate negotiation model based on his calculations of both Penda's and Cadillac's incremental incomes. Although his technique is intriguing, the court does not discern clear support for this methodology in the case law that governs our decision on this matter. The approach may be appropriate in some cases, but it is not necessary to devise a novel method to calculate reasonable and entire compensation. Mr. Malikowski's testimony on the government savings from using this pallet is, however, reflective of the fact that the government should have been willing to pay something less than its anticipated savings in such a negotiation.

3. Finding as to a Reasonable Royalty.

After reviewing the factors pertinent to assessing a reasonable royalty and considering the opinions of qualified experts, the court does not consider any single factor or opinion determinative or fully convincing. After considering all of the above mentioned evidence, the court finds that a reasonable royalty would have been $1.85 per pallet. Most relevant in the court's determination is the clustering of analogous royalties in the $1.00 to $2.50 range. The royalty paid by Bigelow on the Penda pallet ($2.00) is the most closely on point. It is the most material arrangement and does not suffer from the effects of litigation. The court does not share the defendants' concern that this royalty was a reflection of the present litigation. If $2.00 is the fulcrum of those royalty amounts, it is also relevant to the court that the size of the sale and the potential for future business with the government suggests a somewhat lower royalty. The $1.85 figure, slightly less than ten percent of the sales price lies well within the range of royalties discussed in this case for generally similar products, and is within the range of royalties previously awarded under section 1498 to successful plaintiffs.

CONCLUSION

Defendants concede that the accused pallets infringe claims nine and ten of the patent. The court finds that the accused pallets literally infringe claim eleven because they contain every limitation of that claim. In addition, the court finds that the accused pallets perform substantially the same function substantially the same way to achieve the same result as the pallet of claim eleven.

Defendants have failed to prove by clear and convincing evidence that the patent in suit does not meet the requirements of the second paragraph of section 112. The court finds that the inventors did consider a pallet having a foot floor with fused portions in the sidewall to be their invention, and so were entitled to claim it separately. The court finds that the language of claim nine reasonably apprises those of skill in the art of both the

utilization and scope of the invention, and is as precise as the subject matter permits.

Defendants have failed to prove by clear and convincing evidence that the Penda patent is obvious within the meaning of section 103. The court concludes that the differences between the subject matter patented and the prior art are such that the subject matter as a whole would not have been obvious to one of ordinary skill in the art to which the subject matter pertains.

The clerk is directed to enter judgment in favor of plaintiff and against defendant the United States in the amount given by the

following formula,[28] where n is the number of days in 1993 preceding the entry of judgment:

$$\frac{\$1.85}{\$1.00}\times(\$775{,}312.71)\times\left(1+\frac{0.0393\times n}{365}\right)$$

Costs to plaintiff.

ERIC G. BRUGGINK
Judge

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[28] The parties have stipulated that for an award of damages based on a dollar-per-pallet figure, this formula will give the entire compensation due, including all delay damages for all pallet deliveries.

STATUTORY PROVISIONS

28 U.S.C. § 1498:
Patent and Copyright Cases

(a) Whenever an invention described in and covered by a patent of the United States is used or manufactured by or for the United States without license of the owner thereof or lawful right to use or manufacture the same, the owner's remedy shall be by action against the United States in the United States Court of Federal Claims for the recovery of his reasonable and entire compensation for such use and manufacture.

For the purposes of this section, the use or manufacture of an invention described in and covered by a patent of the United States by a contractor, a subcontractor, or any person, firm, or corporation for the Government and with the authorization or consent of the Government, shall be construed as use or manufacture for the United States.

The court shall not award compensation under this section if the claim is based on the use or manufacture by or for the United States of any article owned, leased, used by, or in the possession of the United States prior to July 1, 1918.

A Government employee shall have the right to bring suit against the Government under this section except where he was in a position to order, influence, or induce use of the invention by the Government. This section shall not confer a right of action on any patentee or any assignee of such patentee with respect to any invention discovered or invented by a person while in the employment or service of the United States, where the invention was related to the official functions of the employee, in cases in which such functions included research and development, or in the making of which Government time, materials or facilities were used.

41 U.S.C. § 114:
United States Court of Federal Claims

(b) Procedure

The United States Court of Federal Claims, on motion of either of the parties, or on its own motion, may summon any and all persons with legal capacity to be sued to appear as a party or parties in any suit or proceeding of any nature whatsoever pending in said court to assert and defend their interests, if any, in such suits or proceedings, within such period of time prior to judgment as the United States Court of Federal Claims shall prescribe. If the name and address of any such person is known or can be ascertained by reasonable diligence, and if he resides within the jurisdiction of the United States, he shall be summoned to appear by person service; but if any such person resides outside of the jurisdiction of the United States, or is unknown, or if for any other good and sufficient reason appearing to the court personal service cannot be had, he may be summoned by publication, under such rules as the court may adopt, together with a copy of the summons mailed by registered mail to such person's last known address. The United States Court of Federal Claims may, upon motion of the Attorney General, in any suit or proceeding where there may be any number of persons having possible interests therein, notify such persons to appear to assert and defend such interests. Upon failure so to appear, any and all claims or interests in claims of any such person against the United States, in respect of the subject matter of such suit or proceeding, shall forever be barred and the court shall have jurisdiction to enter judgment *pro confesso* upon any claim or contingent claim asserted on behalf of the United States against any person who, having been duly served with summons, fails to respond thereto, to the same extent and with like effect as if such person had appeared and had admitted the truth of all allegations made on behalf of the United States. Upon appearance by any person pursuant to any such summons or notice, the case as to such person shall, for all purposes, be treated as if an independent proceeding had been instituted by such person pursuant to sections

1491, 1496, 1501, 1503, and 2501 of Title 28, and as if such independent proceeding had then been consolidated, for purposes of trial and determination, with the case in respect of which the summons or notice was issued, except that the United States shall not be heard upon any counterclaims, claims for damages or other demands whatsoever against such person, other than claims and contingent claims for the recovery of money hereafter paid by the United States in respect of the transaction or matter which constitutes the subject matter of such case, unless and until such person shall assert therein a claim, or an interest in a claim, against the United States, and the United States Court of Federal Claims shall have jurisdiction to adjudicate, as between any and all adverse claimants, their respective several interests in any matter in suit and to award several judgments in accordance therewith.

RULES OF THE UNITED STATES COURT OF FEDERAL CLAIMS*

Rule 10. Form Of Pleadings

(a) Caption; names of parties

Every pleading shall contain a caption setting forth the name of the court, the title of the action, the file number, and a designation as in Rule 7(a). In the complaint the title of the action shall include the names of all the parties. See Rule 20(a), the United States being designated as the party defendant in every case, but in other pleadings and other papers it is sufficient to state the name of the first party on each side with an appropriate indication of other parties. But see Rule 72. In pleadings and papers other than the complaint, the name of the judge assigned to the case shall appear under the docket number.

Rule 14. Third Party Practice

(a) When third parties may be brought in

(1) The court, on its own motion or on the motion of a party, may notify any person with legal capacity to sue and be sued and who is alleged to have an interest in the subject matter of any pending action to appear as a party and assert an interest, if any, therein.

(c) Issuance and service of notice

(1) If the court, on its own motion or on the motion of a party, orders any third person to be notified pursuant to subdivision (a)(1) of this rule, the clerk shall issue an original and 1 copy of the notice for each third person to be notified. The notice shall contain the names of the parties and a statement of the time within which such third person may appear, and shall state that in case the third party fails to appear and assert a claim in the subject matter of the action, the claim or interest of the third party therein shall forever be

barred. The notice shall indicate that it is accompanied by a copy of the pleadings, which shall be attached by the moving party.

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* *Note:* These are the current rules of the court.

RULES OF THE UNITED STATES COURT OF CLAIMS*

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Every pleading shall contain a caption setting forth the name of the court, the title of the action, the file number, and a designation as in Rule 7(a). In the complaint the title of the action shall include the names of all the parties (*See* Rule 20(a)), the United States being designated as the party defendant in every case, but in other pleadings and other papers it is sufficient to state the name of the first party on each side with an appropriate indication of other parties.

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* *Note:* These rules were in effect the date the complaint below was filed.

United States General Accounting Office

GAO

Fact Sheet for the Chairman, Committee on Post Office and Civil Service
House of Representatives

April 1993

POSTAL PROCUREMENT

Information on Bid Protest Activities

NUMBER AND VALUE OF CONTRACTS AWARDED BY THE POSTAL SERVICE, FISCAL YEARS 1989-1992
(Dollars in Millions)

ORGANIZATIONAL COMPONENT

	Headquarters		Field		Total	
Procuring department/ fiscal year	Number	Value $	Number	Value $	Number	Value $
Procurement and Supply:						
1989	4,966	915	114,423	837	119,389	1,752
1990	5,360	952	112,392	874	117,752	1,826
1991	7,165	1,252	120,757	880	127,922	2,132
1992	6,709	687	118,838	802	125,547	1,489
Subtotal	24,200	3,806	466,410	3,393	490,610	7,198
Average	6,050	951	116,603	848	122,653	1,800
Facilities:						
1989	1,798	1,164	6,936	144	8,734	1,308
1990	2,031	408	7,897	172	9,928	580
1991	2,166	867	8,416	214	10,582	1,081
1992	1,522	636	8,087	148	9,609	784
Subtotal	7,517	3,075	31,336	679	38,853	3,755
Average	1,879	769	7,834	170	9,713	939

Procuring department/ fiscal year	Headquarters Number	Headquarters Value $	Field Number	Field Value $	Total Number	Total Value $
Delivery, Distribution and Transportation:						
1989	1,977	1,033	2,552	62	4,529	1,095
1990	117	869	2,624	68	2,741	937
1991	140	1,017	2,721	63	2,861	1,080
1992	114	1,001	2,249	66	2,363	1,066
Subtotal	2,348	3,920	10,146	259	12,494	4,178
Average	587	980	2,537	65	3,124	1,045
Total Postal Service:						
1989	8,741	3,112	123,911	1,043	132,652	4,155
1990	7,508	2,229	122,913	1,115	130,421	3,343
1991	9,471	3,136	131,894	1,158	141,365	4,294
1992	8,345	2,324	129,174	1,015	137,519	3,339
Total	34,065	10,801	507,892	4,331	541,957	15,131
Average	8,516	2,700	126,973	1,083	135,489	3,783

Note 1: The data generally represent the value, as of various dates during the period November 16 to 23, 1992, of the contracts awarded in the designated fiscal year. However, the value of the Delivery, Distribution and Transportation Department's air transportation contracts is as of February 2, 1993.

Note 2: The department names were those in effect before the Postal Service's reorganization in mid-1992.

Note 3: The Delivery, Distribution and Transportation Department's number of contracts awarded data do not include air transportation data, which were not available. Also, the relatively higher number of contracts awarded by the Department's "Headquarters" in fiscal year 1989 is attributable to the fact that 1,911 of the 1,977 contracts awarded were made up of 13 rail contracts, each having a significant number of semiautonomous segments.

Note 4: "Value" totals may not add due to rounding.